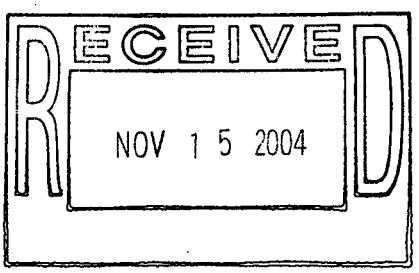
Draft Data Summary Report
For IHSS Group 300-2
UBC-331 (Maintenance)
and IHSS 300-134(S)
(Lithium Metal Destruction Site)



November 2004

1/94

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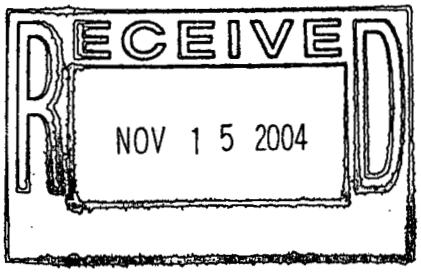
Approval received from the Colorado Department of Public Health and Environment
(_____.)
Approval letter is contained in the Administrative Record.



November 2004

ADMIN RECORD

2

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

3

LIST OF APPENDICES

ENCLOSURE

Complete Data Set Compact Disc – Accelerated Action Data

ACRONYMS

AAESE	Accelerated Action Ecological Screening Evaluation
AL	action level
AR	Administrative Record
ASD	Analytical Services Division
CAS	Chemical Abstract Service
CD	compact disc
CDPHE	Colorado Department of Public Health and Environment
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
COC	contaminant of concern
CRA	Comprehensive Risk Assessment
DOE	U.S. Department of Energy
DQA	Data Quality Assessment
DQO	data quality objective
EB	equipment blank
EPA	U.S. Environmental Protection Agency
EMC	Elevated Measurement Comparison
FB	field blank
FY	Fiscal Year
HAER	Historic American Engineering Record
HPGe	high-purity germanium
HRR	Historical Release Report
IA	Industrial Area
IASAP	Industrial Area Sampling and Analysis Plan
IHSS	Individual Hazardous Substance Site
IM/IRA	Interim Measure/Interim Remedial Action
KH or K-H	Kaiser-Hill Company, L.L.C.
LCS	laboratory control sample
µg/kg	micrograms per kilogram (may be found as ug/kg)
µg/L	micrograms per liter (may be found as ug/L)
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
MS	matrix spike
MSD	matrix spike duplicate
NA	not applicable
NFAA	No Further Accelerated Action
NLR	no longer representative
PAC	Potential Area of Concern
PARCCS	precision, accuracy, representativeness, completeness, comparability, and sensitivity
pCi/g	picocuries per gram
PCOC	potential contaminant of concern
QC	quality control
RFCA	Rocky Flats Cleanup Agreement
RFETS	Rocky Flats Environmental Technology Site
RIN	report identification number
RL	Reporting Limit
RNS	rinse blank
RPD	relative percent difference
SAP	Sampling and Analysis Plan
SD	standard deviation
Site	Rocky Flats Environmental Technology Site
SOR	sum of ratios
SSRS	Subsurface Soil Risk Screen
SVOC	semi-volatile organic compound
SWD	Soil Water Database

TB	trip blank
V&V	verification and validation
VOC	volatile organic compound
WRW	wildlife refuge worker

1.0 INTRODUCTION

This Data Summary Report summarizes accelerated action characterization activities conducted at Individual Hazardous Substance Site (IHSS) Group 300-2, which consists of the Building 331 Under Building Contamination (UBC) Site (referred to as UBC 331) and IHSS 134S Lithium Metal Destruction Site at the Rocky Flats Environmental Technology Site (RFETS or Site) in Golden, Colorado. Characterization activities were planned and executed in accordance with the Industrial Area (IA) Sampling and Analysis Plan (SAP) (IASAP) (DOE 2001a) and IASAP Addendum #IA-03-08 (DOE 2003a). The IASAP Addendum was approved by the Colorado Department of Public Health and Environment (CDPHE) on July 17, 2003. Ecological effects will be evaluated in the Accelerated Action Ecological Screening Evaluation (AAESE) and the ecological risk assessment portion of the Sitewide Comprehensive Risk Assessment (CRA).

Approval of this Data Summary Report constitutes regulatory agency concurrence that IHSS Group 300-2 is a No Further Accelerated Action (NFAA) site. This information and NFAA determination will be documented in the Fiscal Year (FY) 2005 (05) Historical Release Report (HRR).

2.0 SITE CHARACTERIZATION

IHSS Group 300-2 consists of UBC 331, which underlies the northeastern side of the north wing of Building 331, and IHSS 300-134S, which extends east and north of Building 331. The general location of IHSS Group 300-2 at the Site is shown on Figure 1, and a more detailed location is shown on Figure 2.

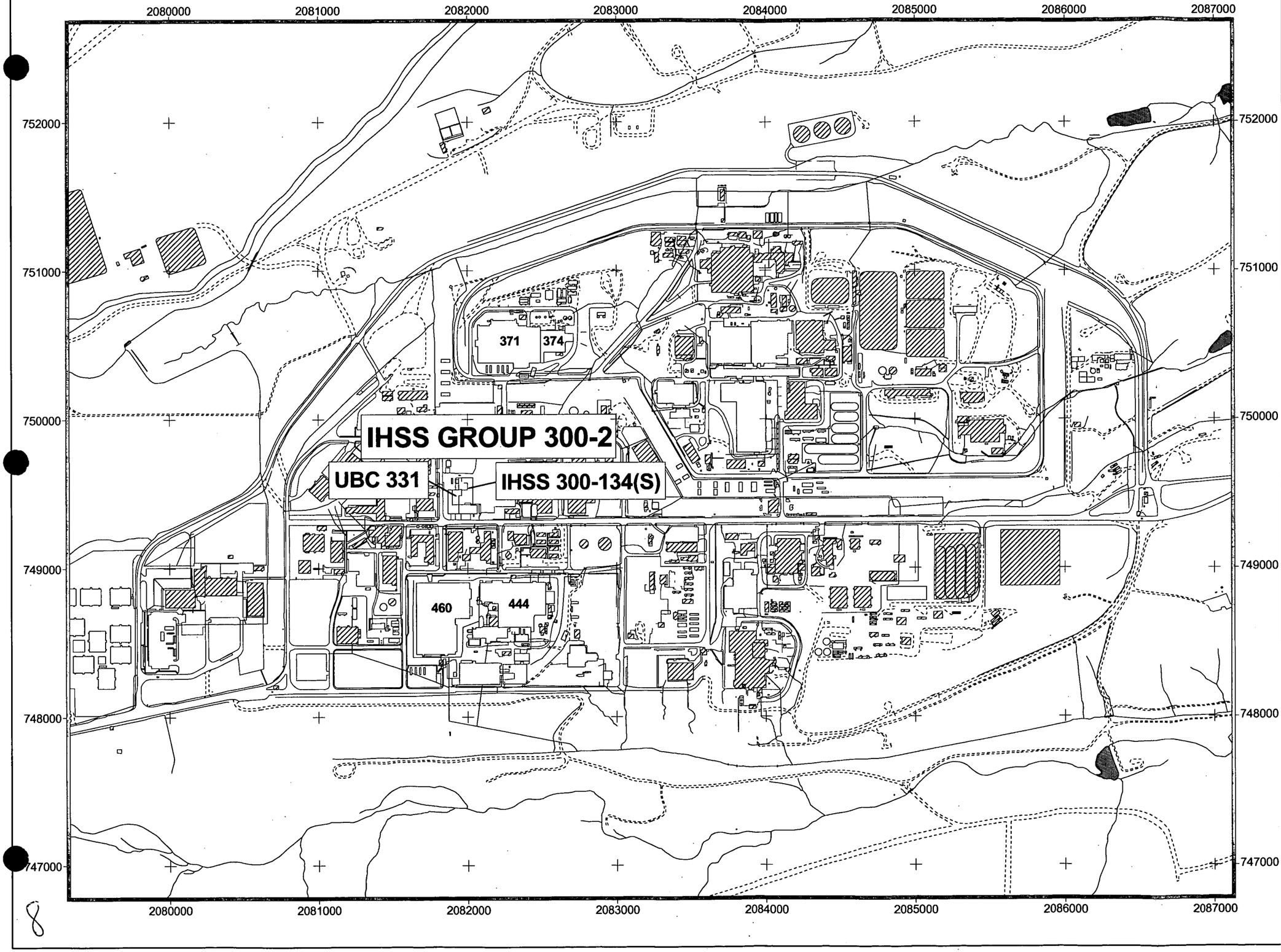
Adjacent to IHSS Group 300-2 are two Potential Areas of Concern (PACs) 300-710 (Gasoline Spill North of Building 331) and PAC 300-713 (Caustic Spill North of Building 331). Both PACs, shown on Figure 2, were granted NFAA status in 2002 (DOE 2002). North of IHSS Group 300-2 is IHSS Group 300-1 consisting of IHSS 300-128 (Oil Burn Pit No. 1), IHSS 300-134(N) (Lithium Metal Destruction Site), and IHSS 300-171 (Solvent Burning Ground). IHSS Group 300-1 was granted NFAA status in 2003 (DOE 2003b). East of IHSS Group 300-2 lies part of IHSS 300-156.1 (Building 371 Parking Lot), which was granted NFAA status in February 2002 (DOE 2002).

IHSS Group 300-2 characterization information consists of historical knowledge, previously collected analytical data, and accelerated action analytical data. Existing information and data for UBC 331 and IHSS 300-134(S) are available in Appendix C of the IASAP (DOE 2001a), the IA Data Summary Report (DOE 2000), the Historical Release Reports (HRR) (DOE 1992-2003), and IASAP Addendum #IA-03-08 (DOE 2003a).

Accelerated action data for IHSS Group 300-2 are summarized in Section 2.2. A compact disc (CD) is enclosed, which contains the real and quality control (QC) accelerated action data for this project. The CD contains a data set in which analyte names, Chemical Abstracts Service (CAS) numbers, and units are standardized, and derived analytes are provided.

FIGURE 1

IHSS Group 300-2 General Location



KEY

- UBC 331
- IHSS 134(S)
- Building demolished
- Building standing
- Pond
- Paved road
- Dirt road
- Surface drainage

DRAFT

N
W E
S

200 0 200 400 600 800 1000 Feet

Scale = 1:7,500

State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD 27

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared for: KAISER•HILL COMPANY

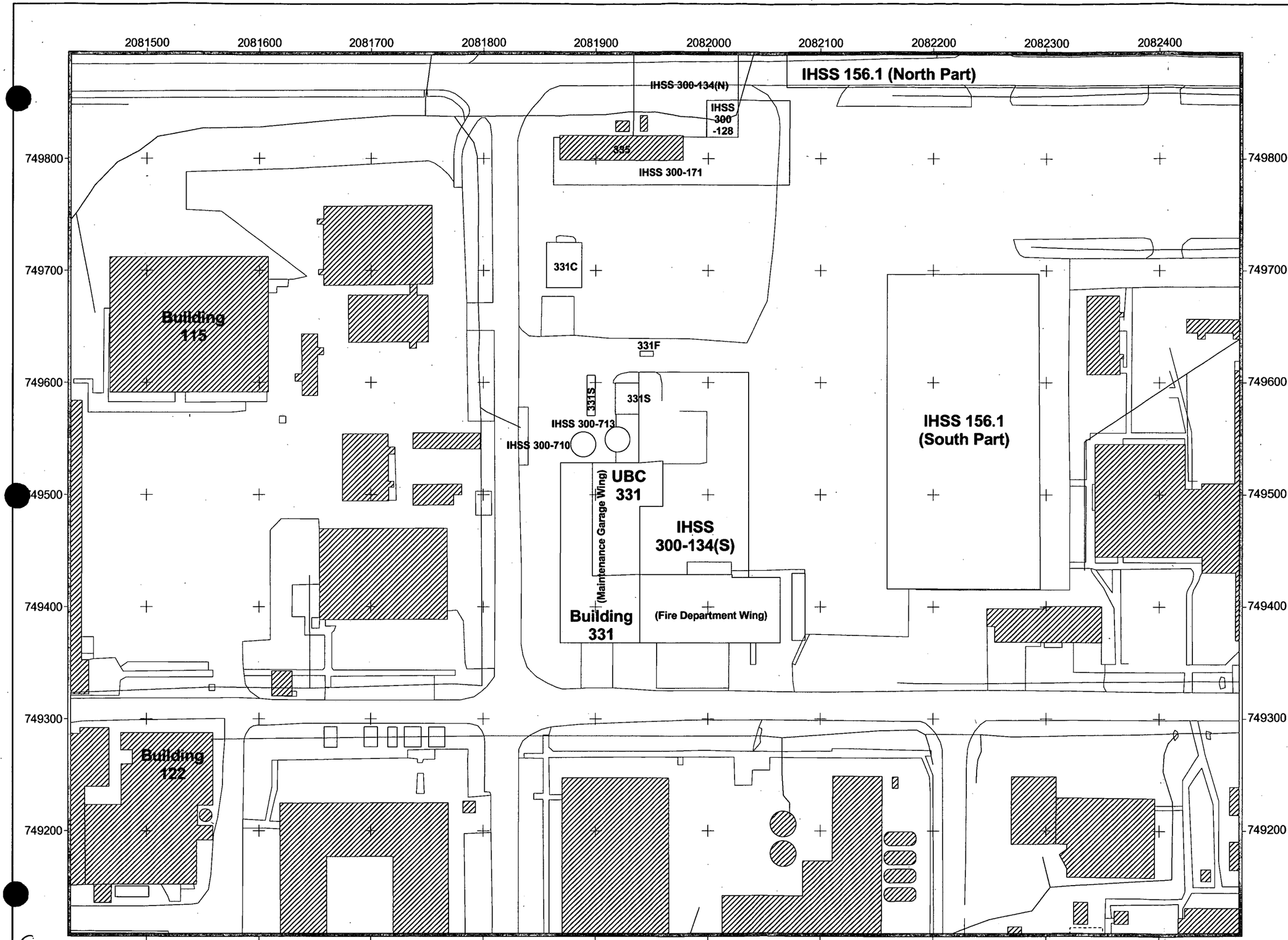
Prepared by: RADMS

File: W/Projects/Fy2004/300-2/
300-2_Closeout.apr

Date: 10/27/04

FIGURE 2

IHSS Group 300-2 Detailed Location



KEY

- UBC 331
- IHSS 134(S)
- IHSS - NFAA
- Building demolished
- Building standing
- Paved road
- Dirt road
- Surface drainage

DRAFT

N
W E
S

20 0 20 40 60 80 100 120 140 Feet

Scale = 1:1000

State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD 27

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared for: KAISER•HILL COMPANY

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File: W/Projects/Fy2004/300-2/300-2_Closeout.apr

Date: 10/27/04

9

2.1 Historic Information and Data

This summary is taken largely from Appendix C of the IASAP (DOE 2001a).

2.1.1 Group 300-2

UBC 331 - Maintenance

Information on Building 331 is from the Historic American Engineering Record (HAER) (DOE 1998). Building 331, originally constructed in 1953, was designed and used as a warehouse. When the building became too small for parts storage, a new warehouse was constructed at another Site location, and Building 331 then became the Site maintenance garage. Additions to the structure, including the fire department structure (the east-west wing of Building 331 south of IHSS 300-134(S), were completed in 1967.

At one time, the northeastern corner of the vehicle maintenance garage [the north-south section of Building 331 west of IHSS 300-134(S)] housed technical staff and a uranium research and development laboratory. Rolling of enriched uranium foil was conducted there in 1964. This area may also have been used for the depleted uranium coating studies. After Building 865 came on-line in 1970, the area was converted for the development of remote handling techniques such as robotics and remote manipulator arms.

Lithium Metal Destruction Site IHSS 300-134(S)

Reactive metal disposal was conducted in two locations north of Building 331. The first site coincides with IHSS 300-134(N). The second site, IHSS 300-134(S), is located adjacent to the north side of Building 331 and includes a portion of the roof and adjacent parking lot. It is in the L-shaped corner of the building and the parking lot to the north that RFETS Fire Department personnel indicated lithium destruction took place. Lithium destruction may have also taken place at a location midway between Building 331 and Building 335 (Figure 2).

Lithium was originally burned by placing it on the ground and sprinkling it with water. Sometimes magnesium chips or a flammable material such as gasoline were used as initiators. On October 13, 1966, a fireman was injured during lithium destruction activities, and the use of this location for disposal of lithium was discontinued. Destruction of lithium in drums at the 331 parking lot is documented as late as 1969. On September 5, 1969, lithium was being dissolved inside a barrel when it exploded. Lithium was dispersed in the area of the 331 parking lot and onto the roof of Building 331. The building has since been re-roofed several times. The incident occurred soon after the addition was built onto the eastern end of Building 331.

Exact amounts of lithium that were destroyed in this area are not documented; however, it is known that by 1970 approximately 400 to 500 pounds of metallic lithium were destroyed and the residues buried. These amounts are thought to be a combination of lithium destruction from this site and from the 903 Pad area in the southeastern part of RFETS (PAC 900-140). The waste lithium originated from Building 444 and Building 881 and was not radioactively contaminated.

10

Other reactive metals, such as sodium, calcium, and magnesium, and some solvents were also destroyed in one or both of these sites. Disposal by burning was enhanced with magnesium chips and other flammable items such as gasoline, oily rags, or paper.

There are no process lines or foundation drains under the building. A walk-down in April 2004 found an old floor drain within UBC 331 that is covered by steel plates. The top of the plates was painted with a layer of purple paint over which linoleum tiles were affixed. The purple paint may indicate radioactive contamination.

Potential contaminants of concern (PCOCs) as identified in IASAP Addendum #IA-03-08 (DOE 2003a) include: radionuclides, metals including lithium and beryllium, volatile organic compounds (VOCs), and semi-volatile organic compounds (SVOCs).

No characterization of soil beneath the Building 331 foundation slab had been conducted prior to accelerated action sampling.

2.2 Accelerated Action Characterization Data

Accelerated action analytical data for IHSS Group 300-2 were collected in accordance with IASAP Addendum #IA-03-08 (DOE 2003a). Sampling specifications, including PCOCs and media, are presented in Table 1. Deviations from the IASAP Addendum are also presented and explained in Table 1. Table 2 presents a summary of accelerated action sampling and analyses. The locations of samples and analytical results greater than background means plus two standard deviations (SD) or reporting limits (RLs), including Rocky Flats Cleanup Agreement (RFCA) (DOE et al. 2003) Wildlife Refuge Worker (WRW) Action Level (AL) exceedances, are shown on Figures 3 and 4 and listed in Table 3. Figure 3 presents the analytical data for surface soil, and Figure 4 presents subsurface soil data. WRW exceedances are shown in bold font on Table 3 and in red on Figures 3 and 4.

2.3 Accelerated Action Exceedances

All contaminant of concern (COC) concentrations in IHSS Group 300-2 were less than their WRW ALs, with four surface exceptions. The concentrations of benzo(a)pyrene (17,000 micrograms per kilogram [µg/kg]) and dibenz(a,h)anthracene (3,500 µg/kg) at Location BW40-002 (between 0.0-0.5 feet [ft] in depth) exceeded WRW ALs. The WRW AL for both SVOCs is 3,490 µg/kg. The concentration of benzo(a)pyrene at Locations BW40-024 (9,500 µg/kg, 0.0-0.3 ft) and BW40-025 (3,900 µg/kg, 0.0-0.5 ft) also exceeded the WRW AL.

A hotspot evaluation of the three locations containing benzo(a)pyrene was performed based on the procedure outlined in the IABZSAP (DOE 2004). The co-located dibenz(a,h)anthracene detection is therefore considered by default. The Elevated Measurement Comparison (EMC) calculation used to evaluate hotspots gave a result less than one, which indicates that remediation is not required in this case.

Based on the Subsurface Soil Risk Screen (SSRS) (Section 6.0) and the hotspot evaluation, soil from IHSS Group 300-2 was not remediated.

Table 1
IHSS Group 300-2 Accelerated Action Characterization Specifications and Sampling Deviations

IHSS Group	IHSS/ PAC/ UBC Site	Location	Proposed Easting	Proposed Northing	Actual Easting	Actual Northing	Actual Media	Actual Depth Interval (ft)	Actual Analytes	Comments / Deviations
300-2	UBC 331	BV40-000	2081914.760	749501.030	2081914.340	749505.437	Surface Soil	0.0 - 0.5	Radionuclides Metals VOCs SVOCs	Statistical; coordinates estimated for interior location 1 ft west and 4 ft south of C2 column, sampled beneath concrete, VOC analysis added, no change in interval.
300-2	UBC 331	BV40-000	2081914.760	749501.030	2081914.340	749505.437	Subsurface Soil	0.5 - 1.2	Radionuclides Metals VOCs SVOCs	Statistical; coordinates estimated for interior location 1 ft west and 4 ft south of C2 column, sampled beneath concrete, hit refusal at 1.2 ft due to large cobbles, all samples collected successfully.
300-2	UBC 331	BV40-001	2081928.050	749467.570	2081927.659	749471.810	Surface Soil	0.0 - 0.5	Radionuclides Metals VOCs SVOCs	Statistical; coordinates estimated for interior location 11 ft east and 3 ft north of C4 column, sampled beneath concrete, VOC analysis added, no change in interval.
300-2	UBC 331	BV40-001	2081928.050	749467.570	2081927.659	749471.810	Subsurface Soil	0.5 - 1.0	Radionuclides Metals VOCs SVOCs	Statistical; coordinates estimated for interior location 11 ft east and 3 ft north of C4 column, sampled beneath concrete, hit refusal at 1.0 ft due to large cobbles, all samples collected successfully.
300-2	UBC 331	BV40-002	2081905.720	749439.330	2081907.327	749433.508	Surface Soil	0.0 - 0.5	Radionuclides Metals VOCs SVOCs	Statistical; coordinates estimated for interior location 8 ft west and 5 ft north of C6 column, sampled beneath concrete, VOC analysis added, no change in interval.
300-2	UBC 331	BV40-002	2081905.720	749439.330	2081907.327	749433.508	Subsurface Soil	0.5 - 1.3	Radionuclides Metals VOCs SVOCs	Statistical; coordinates estimated for interior location 8 ft west and 5 ft north of C6 column, sampled beneath concrete, hit refusal at 1.3 ft due to large cobbles, all samples collected successfully.

IHSS Group	IHSS/ PAC/ UBC Site	Location	Proposed Easting	Proposed Northing	Actual Easting	Actual Northing	Actual Media	Actual Depth Interval (ft)	Actual Analytes	Comments / Deviations
300-2	IHSS 134 (S)	BV40-003	2081868.580	749526.360	2081864.727	749526.990	Surface Soil	0.0 - 0.5	Radionuclides Metals SVOCs	Biased; targeted at drain spout outfall, location moved 3.9 ft W in drainage from downspout to avoid building footer and/or grounding strip, 0.2 ft of asphalt, no change in interval.
300-2	IHSS 134 (S)	BV40-003	2081868.580	749526.360	2081864.727	749526.990	Subsurface Soil	0.5 - 2.5	Radionuclides Metals VOCs SVOCs	Biased; targeted at drain spout outfall, location moved 3.9 ft W in drainage from downspout to avoid building footer and/or grounding strip, no change in interval.
300-2	UBC 331	BV40-004	2081918.800	749526.480	2081917.987	749525.926	Surface Soil	0.0 - 0.5	Radionuclides Metals VOCs SVOCs	Biased; targeted at floor drain, coordinates estimated for interior location in Room 116, 2 ft from north wall and 2 ft from west wall, VOC analysis added, sampled beneath concrete, no change in interval.
300-2	UBC 331	BV40-004	2081918.800	749526.480	NA	NA	NA	NA	NA	Biased; no B interval collected, sampling attempt beneath concrete, refusal at 0.5 ft due to large cobbles.
300-2	UBC 331	BV40-005	2081918.800	749501.220	2081923.668	749503.431	Surface Soil	0.0 - 0.5	Radionuclides Metals VOCs SVOCs	Statistical; coordinates estimated for interior location 7 ft east and 4 ft south of C2 column, sampled beneath concrete, VOC analysis added, no change in interval
300-2	UBC 331	BV40-005	2081918.800	749501.220	2081923.668	749503.431	Subsurface Soil	0.5 - 1.3	Radionuclides Metals VOCs SVOCs	Statistical; coordinates estimated for interior location 7 ft east and 4 ft south of C2 column, sampled beneath concrete, hit refusal at 1.3 ft due to large cobbles, all samples collected successfully.

IHSS Group	IHSS/ PAC/ UBC Site	Location	Proposed Easting	Proposed Northing	Actual Easting	Actual Northing	Actual Media	Actual Depth Interval (ft)	Actual Analytes	Comments / Deviations
300-2	UBC 331	BV40-006	2081934.900	749517.310	2081935.238	749519.927	Surface Soil	0.0 - 0.5	Radionuclides Metals VOCs SVOCs	Biased; targeted at former metallurgical lab, coordinates estimated for interior location in Room 115, 4 ft from east wall and 8 ft from north wall, sampled beneath concrete, VOC analysis added, no change in interval.
300-2	UBC 331	BV40-006	2081934.900	749517.310	2081935.238	749519.927	Subsurface Soil	0.5 - 1.0	Radionuclides Metals VOCs SVOCs	Biased; targeted at former metallurgical lab, coordinates estimated for interior location in Room 115, 4 ft from east wall and 8 ft from north wall, sampled beneath concrete, refusal at 1.0 ft due to large cobbles, all samples collected successfully.
300-2	IHSS 134 (S)	BV40-007	2081927.050	749530.690	2081917.435	749536.136	Surface Soil	0.0 - 0.5	Radionuclides Metals SVOCs	Biased; targeted at drain spout outfall, location moved 11.0 ft NW to avoid underground utilities, sampled beneath asphalt, no change in interval.
300-2	IHSS 134 (S)	BV40-007	2081927.050	749530.690	2081917.435	749536.136	Subsurface Soil	0.5 - 2.5	Radionuclides Metals VOCs SVOCs	Biased; targeted at drain spout outfall, location moved 11.0 ft NW to avoid underground utilities, sampled beneath asphalt, no change in interval.
300-2	UBC 331	BV40-008	2081935.560	749471.330	2081933.659	749472.810	Surface Soil	0.0 - 0.5	Radionuclides Metals VOCs SVOCs	Biased; targeted at floor drain, coordinates estimated for interior location 17 ft east and 4 ft north of C4 column, sampled beneath concrete, VOC analysis added, no change in interval.

IHSS Group	IHSS/ PAC/ UBC Site	Location	Proposed Easting	Proposed Northing	Actual Easting	Actual Northing	Actual Media	Actual Depth Interval (ft)	Actual Analytes	Comments / Deviations
300-2	UBC 331	BV40-008	2081935.560	749471.330	2081933.659	749472.810	Subsurface Soil	0.5 - 1.2	Radionuclides Metals VOCs SVOCs	Biased; targeted at floor drain, coordinates estimated for interior location 17 ft east and 4 ft north of C4 column, sampled beneath concrete, refusal at 1.2 ft due to large cobbles, all samples collected successfully.
300-2	UBC 331	BV40-009	2081918.800	749464.480	2081918.656	749459.465	Surface Soil	0.0 - 0.5	Radionuclides Metals VOCs SVOCs	Biased; targeted at floor drain, coordinates estimated for interior location 2 ft east and 8 ft south of C4 column, sampled beneath concrete, VOC analysis added, no change in interval.
300-2	UBC 331	BV40-009	2081918.800	749464.480	2081918.656	749459.465	Subsurface Soil	0.5 - 1.0	Radionuclides Metals VOCs SVOCs	Biased; targeted at floor drain, coordinates estimated for interior location 2 ft east and 8 ft south of C4 column, sampled beneath concrete, refusal at 1.0 ft due to large cobbles, all samples collected successfully.
300-2	UBC 331	BV40-010	2081918.800	749429.720	2081922.662	749433.503	Surface Soil	0.0 - 0.5	Radionuclides Metals VOCs SVOCs	Biased; targeted at floor drain, coordinates estimated for interior location 6 ft east and 5 ft north of C6 column, sampled beneath concrete, VOC analysis added, no change in interval.
300-2	UBC 331	BV40-010	2081918.800	749429.720	2081922.662	749433.503	Subsurface Soil	0.5 - 1.2	Radionuclides Metals VOCs SVOCs	Biased; targeted at floor drain, coordinates estimated for interior location 6 ft east and 5 ft north of C6 column, sampled beneath concrete, refusal at 1.2 ft due to large cobbles, all samples collected successfully.

IHSS Group	IHSS/ PAC/ UBC Site	Location	Proposed Easting	Proposed Northing	Actual Easting	Actual Northing	Actual Media	Actual Depth Interval (ft)	Actual Analytes	Comments / Deviations
300-2	IHSS 134 (S)	BV40-011	2081868.030	749387.380	2081864.973	749388.682	Surface Soil	0.0 - 0.5	Radionuclides Metals SVOCs	Biased; targeted at drain spout outfall, location moved 3.3 ft W from downspout to avoid building footer and/or grounding strip, sampled beneath 0.5 ft of asphalt, no change in interval.
300-2	IHSS 134 (S)	BV40-011	2081868.030	749387.380	2081864.973	749388.682	Subsurface Soil	0.5 - 2.5	Radionuclides Metals VOCs SVOCs	Biased; targeted at drain spout outfall, location moved 3.3 ft W from downspout to avoid building footer and/or grounding strip, sampled beneath 0.5 ft of asphalt, no change in interval.
300-2	UBC 331	BV40-012	NA	NA	2081917.661	749410.442	Surface Soil	0.0 - 0.5	Radionuclides Metals VOCs SVOCs	Biased; added to target end of floor drain system, coordinates estimated for interior location 1 ft east and 2 ft north of C7 column, VOC analysis added, sampled beneath concrete.
300-2	UBC 331	BV40-012	NA	NA	2081917.661	749410.442	Subsurface Soil	0.5 - 0.9	Radionuclides Metals VOCs SVOCs	Biased; added to target end of floor drain system, coordinates estimated for interior location 1 ft east and 2 ft north of C7 column, sampled beneath concrete, refusal at 0.9 ft due to large cobbles, all samples collected successfully.
300-2	IHSS 134 (S)	BW40-000	2081959.410	749557.510	2081959.445	749557.557	Surface Soil	0.0 - 0.5	Radionuclides Metals VOCs SVOCs	Statistical; cored concrete then hand augered for sample, VOC analysis added, no change in location or interval.
300-2	IHSS 134 (S)	BW40-000	2081959.410	749557.510	2081959.445	749557.557	Subsurface Soil	0.5 - 1.2	Radionuclides Metals VOCs SVOCs	Statistical; cored concrete then hand augered for sample, no change in location, refusal at 1.2 ft due to large cobbles, all samples collected successfully.

IHSS Group	IHSS/ PAC/ UBC Site	Location	Proposed Easting	Proposed Northing	Actual Easting	Actual Northing	Actual Media	Actual Depth Interval (ft)	Actual Analytes	Comments / Deviations
300-2	IHSS 134 (S)	BW40-001	2081995.030	749552.290	2082000.038	749552.409	Surface Soil	0.0 - 0.5	Radionuclides Metals SVOCs	Statistical; location moved 5.0 ft E to avoid concrete, sampled beneath asphalt, no change in interval.
300-2	IHSS 134 (S)	BW40-001	2081995.030	749552.290	2082000.038	749552.409	Subsurface Soil	0.5 - 2.5	Radionuclides Metals VOCs SVOCs	Statistical; location moved 5.0 ft E to avoid concrete, sampled beneath asphalt, no change in interval.
300-2	IHSS 134 (S)	BW40-002	2082030.650	749547.080	2082030.671	749547.088	Surface Soil	0.0 - 0.5	Radionuclides Metals SVOCs	Statistical; sampled beneath asphalt, no change in location or interval.
300-2	IHSS 134 (S)	BW40-002	2082030.650	749547.080	2082030.671	749547.088	Subsurface Soil	0.5 - 2.5	Radionuclides Metals VOCs SVOCs	Statistical; sampled beneath asphalt, no change in location or interval.
300-2	IHSS 134 (S)	BW40-003	2081972.700	749524.050	2081972.261	749524.331	Surface Soil	0.0 - 0.5	Radionuclides Metals SVOCs	Statistical; sampled beneath asphalt, no change in location or interval.
300-2	IHSS 134 (S)	BW40-003	2081972.700	749524.050	2081972.261	749524.331	Subsurface Soil	0.5 - 2.5	Radionuclides Metals VOCs SVOCs	Statistical; sampled beneath asphalt, no change in location or interval.
300-2	IHSS 134 (S)	BW40-004	2082008.320	749518.840	NA	NA	NA	NA	NA	Statistical; not collected; when biased location BW40-033 was field located over cracks in asphalt, its location was within 5 ft of BW40-004, so BW40-004 was deleted (Contact Record dated August 9, 2004).
300-2	IHSS 134 (S)	BW40-004	2082008.320	749518.840	NA	NA	NA	NA	NA	Statistical; not collected; when biased location BW40-033 was field located over cracks in asphalt, its location was within 5 ft of BW40-004, so BW40-004 was deleted (Contact Record dated August 9, 2004).

IHSS Group	IHSS/ PAC/ UBC Site	Location	Proposed Easting	Proposed Northing	Actual Easting	Actual Northing	Actual Media	Actual Depth Interval (ft)	Actual Analytes	Comments / Deviations
300-2	UBC 331	BW40-005	2081950.380	749495.810	2081948.299	749498.944	Surface Soil	0.0 - 0.5	Radionuclides Metals SVOCs	Statistical; coordinates estimated for interior location in parts room, 11 ft from east exterior wall and 10 ft from north wall of room (same as south wall of Room 130), collected beneath concrete, no change in interval.
300-2	UBC 331	BW40-005	2081950.380	749495.810	2081948.299	749498.944	Subsurface Soil	0.5 - 1.0	Radionuclides Metals VOCs SVOCs	Statistical; coordinates estimated for interior location in parts room, 11 ft from east exterior wall and 10 ft from north wall of room (same as south wall of Room 130), collected beneath concrete, refusal at 1.0 ft due to large cobbles, all samples collected successfully.
300-2	IHSS 134 (S)	BW40-006	2081986.000	749490.600	2081985.988	749490.469	Surface Soil	0.0 - 0.5	Radionuclides Metals SVOCs	Statistical; sampled beneath asphalt, no change in location or interval.
300-2	IHSS 134 (S)	BW40-006	2081986.000	749490.600	2081985.988	749490.469	Subsurface Soil	0.5 - 2.5	Radionuclides Metals VOCs SVOCs	Statistical; sampled beneath asphalt, no change in location or interval.
300-2	IHSS 134 (S)	BW40-007	2082021.620	749485.380	NA	NA	NA	NA	NA	Statistical; not collected; when biased location BW40-029 was field located over cracks in asphalt, its location was within 5 ft of BW40-007, so BW40-007 was deleted (Contact Record dated August 9, 2004).
300-2	IHSS 134 (S)	BW40-007	2082021.620	749485.380	NA	NA	NA	NA	NA	Statistical; not collected; when biased location BW40-029 was field located over cracks in asphalt, its location was within 5 ft of BW40-007, so BW40-007 was deleted (Contact Record dated August 9, 2004).

IHSS Group	IHSS/ PAC/ UBC Site	Location	Proposed Easting	Proposed Northing	Actual Easting	Actual Northing	Actual Media	Actual Depth Interval (ft)	Actual Analytes	Comments / Deviations
300-2	IHSS 134 (S)	BW40-008	2081963.670	749462.360	2081963.721	749462.412	Surface Soil	0.0 - 0.5	Radionuclides Metals VOCs SVOCs	Statistical; sampled beneath asphalt, hydrocarbon odor associated with sample, VOC analysis added, no change in location or interval.
300-2	IHSS 134 (S)	BW40-008	2081963.670	749462.360	2081963.721	749462.412	Subsurface Soil	0.5 - 2.5	Radionuclides Metals VOCs SVOCs	Statistical; sampled beneath asphalt, hydrocarbon odor associated with sample, no change in location or interval.
300-2	IHSS 134 (S)	BW40-009	2081999.290	749457.140	2081999.278	749457.071	Surface Soil	0.0 - 0.5	Radionuclides Metals VOCs SVOCs	Statistical; sampled beneath concrete, hand scoop used to collect sample, VOC analysis added, no change in location or interval.
300-2	IHSS 134 (S)	BW40-009	2081999.290	749457.140	2081999.278	749457.071	Subsurface Soil	0.5 - 2.5	Radionuclides Metals VOCs SVOCs	Statistical; sampled beneath concrete, hand scoop used to collect sample, no change in location or interval.
300-2	IHSS 134 (S)	BW40-010	2082034.910	749451.930	2082034.314	749464.546	Surface Soil	0.0 - 0.5	Radionuclides Metals SVOCs	Statistical; location moved 12.6 ft N to avoid overhead power lines, sample collected beneath asphalt, no change in interval.
300-2	IHSS 134 (S)	BW40-010	2082034.910	749451.930	2082034.314	749464.546	Subsurface Soil	0.5 - 2.5	Radionuclides Metals VOCs SVOCs	Statistical; location moved 12.6 ft N to avoid overhead power lines, sample collected beneath asphalt, no change in interval.
300-2	IHSS 134 (S)	BW40-011	2081941.340	749434.120	NA	NA	NA	NA	NA	Statistical; sample not collected; proposed location adjacent to air conditioner and compressor, repositioning would place it near BW40-027 and BW40-028, so BW40-011 was deleted and replaced by BW40-034 (Contact Record dated August 9, 2004).

IHSS Group	IHSS/ PAC/ UBC Site	Location	Proposed Easting	Proposed Northing	Actual Easting	Actual Northing	Actual Media	Actual Depth Interval (ft)	Actual Analytes	Comments / Deviations
300-2	IHSS 134 (S)	BW40-011	2081941.340	749434.120	NA	NA	NA	NA	NA	Statistical; sample not collected; proposed location adjacent to air conditioner and compressor, repositioning would place it near BW40-027 and BW40-028, so BW40-011 was deleted and replaced by BW40-034 (Contact Record dated August 9, 2004).
300-2	UBC 331	BW40-018	2081938.120	749499.980	2081937.306	749497.942	Surface Soil	0.0 - 0.5	Radionuclides Metals VOCs SVOCs	Biased; former metals laboratory, coordinates estimated for interior location 22 ft from east exterior wall and 11 ft from north wall of room (same as south wall of Room 130), collected beneath concrete, VOC analysis added, no change in interval.
300-2	UBC 331	BW40-018	2081938.120	749499.980	2081937.306	749497.942	Subsurface Soil	0.5 - 0.9	Radionuclides Metals VOCs SVOCs	Biased; former metals lab, coordinates estimated for interior location 22 ft from east exterior wall and 11 ft from north wall of room (same as south wall of Room 130), collected beneath concrete, refusal at 0.9 ft due to large cobbles, all samples collected successfully.
300-2	IHSS 134 (S)	BW40-019	2081944.720	749531.020	2081940.774	749534.564	Surface Soil	0.0 - 0.5	Radionuclides Metals VOCs SVOCs	Biased; targeted at drain spout outfall, location moved 5.3 ft NW to avoid underground utilities, VOC analysis added, no change in interval.
300-2	IHSS 134 (S)	BW40-019	2081944.720	749531.020	2081940.774	749534.564	Subsurface Soil	0.5 - 2.5	Radionuclides Metals VOCs SVOCs	Biased; targeted at drain spout outfall, location moved 5.3 ft NW to avoid underground utilities, no change in interval.

IHSS Group	IHSS/ PAC/ UBC Site	Location	Proposed Easting	Proposed Northing	Actual Easting	Actual Northing	Actual Media	Actual Depth Interval (ft)	Actual Analytes	Comments / Deviations
300-2	UBC 331	BW40-020	2081955.780	749525.730	2081955.636	749524.249	Surface Soil	0.0 - 0.5	Radionuclides Metals VOCs SVOCs	Biased; targeted at potential solvent spill, coordinates estimated for interior location, sampled beneath 0.5 ft of concrete, 4 ft from both east and north exterior walls of Room 130, VOC analysis added, no change in interval.
300-2	UBC 331	BW40-020	2081955.780	749525.730	2081955.636	749524.249	Subsurface Soil	0.5 - 1.1	Radionuclides Metals VOCs SVOCs	Biased; targeted at potential solvent spill, coordinates estimated for interior location, sampled beneath 0.5 ft of concrete, 4 ft from both east and north exterior walls of Room 130, refusal at 1.1 ft due to large cobbles, all samples collected successfully.
300-2	IHSS 134 (S)	BW40-021	2081960.900	749514.420	2081964.233	749508.945	Surface Soil	0.0 - 0.5	Radionuclides Metals SVOCs	Biased (listed as statistical in IASAP Addendum IA-03-08 but does not lie on statistical grid); target at roof drain spout, moved 6.4 ft SE to avoid underground utilities and building footer (Contact Record dated 8/24/04), no change in interval.
300-2	IHSS 134 (S)	BW40-021	2081960.900	749514.420	2081964.233	749508.945	Subsurface Soil	0.5 - 2.5	Radionuclides Metals VOCs SVOCs	Biased (listed as statistical in IASAP Addendum IA-03-08 but does not lie on statistical grid); target at roof drain spout, moved 6.4 ft SE to avoid underground utilities and building footer (Contact Record dated 8/24/04), no change in interval.

IHSS Group	IHSS/ PAC/ UBC Site	Location	Proposed Easting	Proposed Northing	Actual Easting	Actual Northing	Actual Media	Actual Depth Interval (ft)	Actual Analytes	Comments / Deviations
300-2	UBC 331	BW40-022	2081955.040	749504.440	2081955.306	749504.948	Surface Soil	0.0 - 0.5	Radionuclides Metals VOCs SVOCs	Biased; former storage area, coordinates estimated for interior location 4 ft from east exterior wall and 4 ft from north wall of room (same as south wall of Room 130), collected beneath 0.5 ft of concrete, VOC analysis added, no change in interval.
300-2	UBC 331	BW40-022	2081955.040	749504.440	2081955.306	749504.948	Subsurface Soil	0.5 - 1.1	Radionuclides Metals VOCs SVOCs	Biased; former storage area, coordinates estimated for interior location 4 ft from east exterior wall and 4 ft from north wall (same as south wall of Room 130), collected beneath 0.5 ft of concrete, refusal at 1.1 ft due to large cobbles, all samples collected successfully.
300-2	UBC 331	BW40-023	2081955.450	749494.360	2081955.333	749493.932	Surface Soil	0.0 - 0.5	Radionuclides Metals VOCs SVOCs	Biased; targeted at former storage area, coordinates estimated for interior location in (current) parts room, 4 ft from both east and south exterior walls, collected beneath concrete, VOC analysis added, no change in interval.
300-2	UBC 331	BW40-023	2081955.450	749494.360	2081955.333	749493.932	Subsurface Soil	0.5 - 1.2	Radionuclides Metals VOCs SVOCs	Biased; targeted at former storage area, coordinates estimated for interior location in (current) parts room, 4 ft from both east and south exterior walls, collected beneath concrete, refusal at 1.2 ft due to large cobbles, all samples collected successfully.
300-2	IHSS 134 (S)	BW40-024	2081942.000	749486.770	2081941.813	749488.110	Surface Soil	0.0 - 0.3	Radionuclides Metals SVOCs	Biased; targeted at drain spout outfall, numerous utilities at this location preclude digging, location moved 1.4 ft N, only surface grab sample collected.

IHSS Group	IHSS/ PAC/ UBC Site	Location	Proposed Easting	Proposed Northing	Actual Easting	Actual Northing	Actual Media	Actual Depth Interval (ft)	Actual Analytes	Comments / Deviations
300-2	IHSS 134 (S)	BW40-024	2081942.000	749486.770	2081941.813	749488.110	NA	NA	NA	Biased; targeted at drain spout outfall, "B" interval sample not collected, numerous utilities at this location preclude digging, location moved 1.4 ft N, only surface grab sample collected.
300-2	IHSS 134 (S)	BW40-025	2081940.920	749457.220	2081944.712	749466.082	Surface Soil	0.0 - 0.5	Radionuclides Metals SVOCs	Biased; targeted at drain spout outfall, moved 9.6 ft NE to avoid underground utilities and building footer, no change in interval, hydrocarbon odor associated with sample.
300-2	IHSS 134 (S)	BW40-025	2081940.920	749457.220	2081944.712	749466.082	Subsurface Soil	0.5 - 2.5	Radionuclides Metals VOCs SVOCs	Biased; targeted at drain spout outfall, moved 9.6 ft NE to avoid underground utilities and building footer, no change in interval.
300-2	IHSS 134 (S)	BW40-026	2081941.670	749448.300	2081944.542	749452.834	Surface Soil	0.0 - 0.5	Radionuclides Metals VOCs SVOCs	Biased for coverage (listed as statistical in IASAP Addendum IA-03-08 but does not lie on statistical grid); moved 5.4 ft NE to avoid underground utilities and building footer, VOC analysis added, no change in interval.
300-2	IHSS 134 (S)	BW40-026	2081941.670	749448.300	2081944.542	749452.834	Subsurface Soil	0.5 - 2.5	Radionuclides Metals VOCs SVOCs	Biased for coverage (listed as statistical in IASAP Addendum IA-03-08 but does not lie on statistical grid); moved 5.4 ft NE to avoid underground utilities and building footer, no change in interval.
300-2	IHSS 134 (S)	BW40-027	2081954.790	749434.430	2081961.532	749437.171	Surface Soil	0.0 - 0.5	Radionuclides Metals SVOCs	Biased (listed as statistical in IASAP Addendum IA-03-08 but does not lie on statistical grid); moved 7.3 ft E to target roof drain, sampled beneath asphalt, no change in interval.

IHSS Group	IHSS/ PAC/ UBC Site	Location	Proposed Easting	Proposed Northing	Actual Easting	Actual Northing	Actual Media	Actual Depth Interval (ft)	Actual Analytes	Comments / Deviations
300-2	IHSS 134 (S)	BW40-027	2081954.790	749434.430	2081961.532	749437.171	Subsurface Soil	0.5 - 2.5	Radionuclides Metals VOCs SVOCs	Biased (listed as statistical in IASAP Addendum IA-03-08 but does not lie on statistical grid); moved 7.3 ft E to target roof drain, sampled beneath asphalt, no change in interval.
300-2	IHSS 134 (S)	BW40-028	2081954.050	749443.430	2081956.718	749453.539	Surface Soil	0.0 - 0.5	Radionuclides Metals VOCs SVOCs	Biased (listed as statistical in IASAP Addendum IA-03-08 but does not lie on statistical grid); moved 10.5 ft N for coverage, VOC analysis added, no change in interval.
300-2	IHSS 134 (S)	BW40-028	2081954.050	749443.430	2081956.718	749453.539	Subsurface Soil	0.5 - 2.5	Radionuclides Metals VOCs SVOCs	Biased (listed as statistical in IASAP Addendum IA-03-08 but does not lie on statistical grid); moved 10.5 ft N for coverage, no change in interval.
300-2	IHSS 134 (S)	BW40-029	2082035.020	749491.150	2082027.053	749489.481	Surface Soil	0.0 - 0.5	Radionuclides Metals SVOCs	Biased; targeted at cracks in asphalt, field located 8.1 ft W to sample beneath actual cracked asphalt, no change in interval.
300-2	IHSS 134 (S)	BW40-029	2082035.020	749491.150	2082027.053	749489.481	Subsurface Soil	0.5 - 2.5	Radionuclides Metals VOCs SVOCs	Biased; targeted at cracks in asphalt, field located 8.1 ft W to sample beneath actual cracked asphalt, no change in interval.
300-2	IHSS 134 (S)	BW40-030	2082034.070	749427.280	2082032.631	749433.363	Surface Soil	0.0 - 0.5	Radionuclides Metals SVOCs	Biased; targeted at drain spout outfall, moved 6.3 ft N to avoid overhead power lines and thick concrete ramp, sampled beneath asphalt, no change in interval.

IHSS Group	IHSS/ PAC/ UBC Site	Location	Proposed Easting	Proposed Northing	Actual Easting	Actual Northing	Actual Media	Actual Depth Interval (ft)	Actual Analytes	Comments / Deviations
300-2	IHSS 134 (S)	BW40-030	2082034.070	749427.280	2082032.631	749433.363	Subsurface Soil	0.5 - 2.5	Radionuclides Metals VOCs SVOCs	Biased; targeted at drain spout outfall, moved 6.3 ft N to avoid overhead power lines and thick concrete ramp, sampled beneath asphalt, refusal at 1.5 ft due to large cobbles, all samples collected successfully.
300-2	IHSS 134 (S)	BW40-031	2081961.470	749366.910	2081961.520	749366.952	Surface Soil	0.0 - 0.5	Radionuclides Metals VOCs SVOCs	Biased; targeted at drain spout outfall, moved slightly to avoid building footer and grounding strip, sampled beneath 0.5 ft of concrete, VOC analysis added, no change in interval.
300-2	IHSS 134 (S)	BW40-031	2081961.470	749366.910	2081961.520	749366.952	Subsurface Soil	0.5 - 2.5	Radionuclides Metals VOCs SVOCs	Biased; targeted at drain spout outfall, moved slightly to avoid building footer and grounding strip, sampled beneath 0.5 ft of concrete, no change in interval.
300-2	IHSS 134 (S)	BW40-032	2082003.180	749366.910	2082003.286	749367.002	Surface Soil	0.0 - 0.5	Radionuclides Metals VOCs SVOCs	Biased; targeted at drain spout outfall, moved slightly to avoid building footer and grounding strip (Contact Record dated 8/24/04), sampled beneath 0.8 ft of concrete, VOC analysis added, no change in interval.
300-2	IHSS 134 (S)	BW40-032	2082003.180	749366.910	2082003.286	749367.002	Subsurface Soil	0.5 - 2.5	Radionuclides Metals VOCs SVOCs	Biased; targeted at drain spout outfall, moved slightly to avoid building footer and grounding strip (Contact Record dated 8/24/04), sampled beneath 0.8 ft of concrete, no change in interval.
300-2	IHSS 134 (S)	BW40-033	2081987.830	749528.700	2082002.224	749521.040	Surface Soil	0.0 - 0.5	Radionuclides Metals SVOCs	Biased; targeted at cracks in asphalt, field located 16.3 ft SE to sample beneath actual cracked asphalt, no change in interval.

IHSS Group	IHSS/ PAC/ UBC Site	Location	Proposed Easting	Proposed Northing	Actual Easting	Actual Northing	Actual Media	Actual Depth Interval (ft)	Actual Analytes	Comments / Deviations
300-2	IHSS 134 (S)	BW40-033	2081987.830	749528.700	2082002.224	749521.040	Subsurface Soil	0.5 - 2.5	Radionuclides Metals VOCs SVOCs	Biased; targeted at cracks in asphalt, field located 16.3 ft SE to sample beneath actual cracked asphalt, no change in interval.
300-2	IHSS 134 (S)	BW40-034	NA	NA	2081959.331	749478.399	Surface Soil	0.0 - 0.5	Radionuclides Metals SVOCs	Biased; replaces BW40-011, targeted at area between BW40-008 and BW40-023 (Contact Record dated 8/12/04)
300-2	IHSS 134 (S)	BW40-034	NA	NA	2081959.331	749478.399	Subsurface Soil	0.5 - 2.5	Radionuclides Metals VOCs SVOCs	Biased; replaces BW40-011, targeted at area between BW40-008 and BW40-023 (Contact Record dated 8/12/04)
300-2	IHSS 134 (S)	BW41-002	2081946.120	749590.970	2081949.733	749590.865	Surface Soil	0.0 - 0.5	Radionuclides Metals SVOCs	Statistical; moved 3.6 ft E to avoid underground fuel line, sampled beneath asphalt, no change in interval.
300-2	IHSS 134 (S)	BW41-002	2081946.120	749590.970	2081949.733	749590.865	Subsurface Soil	0.5 - 2.5	Radionuclides Metals VOCs SVOCs	Statistical; moved 3.6 ft E to avoid underground fuel line, sampled beneath asphalt, no change in interval.
300-2	IHSS 134 (S)	BW41-003	2081981.740	749585.750	2081981.788	749585.683	Surface Soil	0.0 - 0.5	Radionuclides Metals SVOCs	Statistical; sampled beneath asphalt, no change in location or interval.
300-2	IHSS 134 (S)	BW41-003	2081981.740	749585.750	2081981.788	749585.683	Subsurface Soil	0.5 - 2.5	Radionuclides Metals VOCs SVOCs	Statistical; sampled beneath asphalt, no change in location or interval.
300-2	IHSS 134 (S)	BW41-004	2082017.360	749580.530	2082017.334	749580.538	Surface Soil	0.0 - 0.5	Radionuclides Metals VOCs SVOCs	Statistical; sampled beneath asphalt, VOC analysis added due to photo ionization detection of 282 part per million, no change in location or interval.
300-2	IHSS 134 (S)	BW41-004	2082017.360	749580.530	2082017.334	749580.538	Subsurface Soil	0.5 - 2.5	Radionuclides Metals VOCs SVOCs	Statistical; sampled beneath asphalt, no change in location or interval.

NA = Not Applicable

Table 2
IHSS Group 300-2 Accelerated Action Sampling and Analysis Summary

Criteria	Proposed Soil Analyses	Actual Soil Analyses
Number of Sampling Locations	43	42
Number of Samples	86	82
Number of Radionuclide Analyses (HPGE* + Alpha Spectrometry)	86	90
Number of Metal Analyses	86	82
Number of VOC Analyses	43	63
Number of SVOC Analyses	86	82

*HPGe = high purity germanium

Table 3
IHSS Group 300-2 Accelerated Action Characterization Data Greater Than Background Means Plus Two Standard Deviations or Reporting Limits

Location	Actual Easting	Actual Northing	Analyte	Result	Reporting Limit	WRW AL	Background Mean Plus 2 Standard Deviations	Unit	Start Depth (ft)	End Depth (ft)
BV40-000	2081914.340	749505.437	Aluminum	21000.000	NA	228000	16902.000	mg/kg	0.0	0.5
BV40-000	2081914.340	749505.437	Antimony	0.760	NA	409	0.470	mg/kg	0.0	0.5
BV40-000	2081914.340	749505.437	Beryllium	1.200	NA	921	0.966	mg/kg	0.0	0.5
BV40-000	2081914.340	749505.437	bis(2-Ethylhexyl)phthalate	150.000	82.000	1970000	NA	µg/kg	0.0	0.5
BV40-000	*2081914.340*	*749505.437*	*Uranium-234*	*4.011*	NA	*300*	*2.253*	*pCi/g*	*0.0*	*0.5*
BV40-000	2081914.340	749505.437	Uranium-235	0.279	NA	8	0.094	pCi/g	0.0	0.5
BV40-000	2081914.340	749505.437	Uranium-238	4.011	NA	351	2.000	pCi/g	0.0	0.5
BV40-000	2081914.340	749505.437	bis(2-Ethylhexyl)phthalate	150.000	81.000	1970000	NA	µg/kg	0.5	1.2
BV40-000	*2081914.340*	*749505.437*	*Uranium-234*	*3.240*	NA	*300*	*2.640*	*pCi/g*	*0.5*	*1.2*
BV40-000	2081914.340	749505.437	Uranium-235	0.228	NA	8	0.120	pCi/g	0.5	1.2
BV40-000	2081914.340	749505.437	Uranium-238	3.240	NA	351	1.490	pCi/g	0.5	1.2
BV40-001	2081927.659	749471.810	Aluminum	17000.000	NA	228000	16902.000	mg/kg	0.0	0.5
BV40-001	2081927.659	749471.810	Chromium	36.000	NA	268	16.990	mg/kg	0.0	0.5
BV40-001	2081927.659	749471.810	Naphthalene	1.100	0.960	3090000	NA	µg/kg	0.0	0.5
BV40-001	2081927.659	749471.810	Nickel	21.000	NA	20400	14.910	mg/kg	0.0	0.5
BV40-001	2081927.659	749471.810	1,2,4-Trichlorobenzene	1.100	0.800	9230000	NA	µg/kg	0.5	1.0
BV40-001	2081927.659	749471.810	Naphthalene	1.400	0.970	3090000	NA	µg/kg	0.5	1.0
BV40-002	2081907.327	749433.508	Aluminum	20000.000	NA	228000	16902.000	mg/kg	0.0	0.5
BV40-002	2081907.327	749433.508	Beryllium	1.100	NA	921	0.966	mg/kg	0.0	0.5
BV40-002	2081907.327	749433.508	Uranium-235	0.209	NA	8	0.094	pCi/g	0.0	0.5
BV40-002	2081907.327	749433.508	Uranium-238	2.238	NA	351	1.490	pCi/g	0.5	1.3
BV40-003	2081864.727	749526.990	2-Methylnaphthalene	96.000	34.000	20400000	NA	µg/kg	0.0	0.5
BV40-003	2081864.727	749526.990	Acenaphthene	410.000	33.000	40800000	NA	µg/kg	0.0	0.5
BV40-003	2081864.727	749526.990	Anthracene	430.000	25.000	204000000	NA	µg/kg	0.0	0.5
BV40-003	2081864.727	749526.990	Benzo(a)anthracene	760.000	26.000	34900	NA	µg/kg	0.0	0.5
BV40-003	2081864.727	749526.990	Benzo(a)pyrene	800.000	43.000	3490	NA	µg/kg	0.0	0.5
BV40-003	2081864.727	749526.990	Benzo(b)fluoranthene	540.000	31.000	34900	NA	µg/kg	0.0	0.5
BV40-003	2081864.727	749526.990	Benzo(k)fluoranthene	700.000	34.000	349000	NA	µg/kg	0.0	0.5

Location	Actual Easting	Actual Northing	Analyte	Result	Reporting Limit	WRW AL	Background Mean Plus 2 Standard Deviations	Unit	Start Depth (ft)	End Depth (ft)
BV40-003	2081864.727	749526.990	Chrysene	820.000	30.000	3490000	NA	µg/kg	0.0	0.5
BV40-003	2081864.727	749526.990	Dibenzofuran	160.000	38.000	2950000	NA	µg/kg	0.0	0.5
BV40-003	2081864.727	749526.990	Fluoranthene	2200.000	24.000	27200000	NA	µg/kg	0.0	0.5
BV40-003	2081864.727	749526.990	Fluorene	290.000	36.000	40800000	NA	µg/kg	0.0	0.5
BV40-003	2081864.727	749526.990	Indeno(1,2,3-cd)pyrene	560.000	24.000	34900	NA	µg/kg	0.0	0.5
BV40-003	2081864.727	749526.990	Naphthalene	280.000	34.000	3090000	NA	µg/kg	0.0	0.5
BV40-003	2081864.727	749526.990	Pyrene	2000.000	140.000	22100000	NA	µg/kg	0.0	0.5
BV40-003	2081864.727	749526.990	Uranium-235	0.164	NA	8	0.094	pCi/g	0.0	0.5
BV40-003	2081864.727	749526.990	Acenaphthene	44.000	33.000	40800000	NA	µg/kg	0.5	2.5
BV40-003	2081864.727	749526.990	Anthracene	46.000	26.000	204000000	NA	µg/kg	0.5	2.5
BV40-003	2081864.727	749526.990	Benzo(a)anthracene	89.000	27.000	34900	NA	µg/kg	0.5	2.5
BV40-003	2081864.727	749526.990	Benzo(b)fluoranthene	82.000	31.000	34900	NA	µg/kg	0.5	2.5
BV40-003	2081864.727	749526.990	Benzo(k)fluoranthene	90.000	35.000	349000	NA	µg/kg	0.5	2.5
BV40-003	2081864.727	749526.990	Chrysene	110.000	30.000	3490000	NA	µg/kg	0.5	2.5
BV40-003	2081864.727	749526.990	Fluoranthene	250.000	25.000	27200000	NA	µg/kg	0.5	2.5
BV40-003	2081864.727	749526.990	Pyrene	230.000	150.000	22100000	NA	µg/kg	0.5	2.5
BV40-003	2081864.727	749526.990	Uranium-235	0.160	NA	8	0.120	pCi/g	0.5	2.5
BV40-004	2081917.987	749525.926	Aluminum	17000.000	NA	228000	16902.000	mg/kg	0.0	0.5
BV40-004	2081917.987	749525.926	Beryllium	1.100	NA	921	0.966	mg/kg	0.0	0.5
BV40-004	2081917.987	749525.926	Butylbenzylphthalate	75.000	74.000	147000000	NA	µg/kg	0.0	0.5
BV40-004	2081917.987	749525.926	Chromium	22.000	NA	268	16.990	mg/kg	0.0	0.5
BV40-004	2081917.987	749525.926	Nickel	16.000	NA	20400	14.910	mg/kg	0.0	0.5
BV40-004	2081917.987	749525.926	Uranium-238	2.178	NA	351	2.000	pCi/g	0.0	0.5
BV40-005	2081923.668	749503.431	Aluminum	22000.000	NA	228000	16902.000	mg/kg	0.0	0.5
BV40-005	2081923.668	749503.431	Antimony	0.550	NA	409	0.470	mg/kg	0.0	0.5
BV40-005	2081923.668	749503.431	Beryllium	1.200	NA	921	0.966	mg/kg	0.0	0.5
BV40-005	2081923.668	749503.431	Chromium	23.000	NA	268	16.990	mg/kg	0.0	0.5
BV40-005	2081923.668	749503.431	Iron	21000.000	NA	307000	18037.000	mg/kg	0.0	0.5
BV40-005	2081923.668	749503.431	Nickel	18.000	NA	20400	14.910	mg/kg	0.0	0.5
BV40-005	*2081923.668*	*749503.431*	*Uranium-234*	*4.621*	NA	*300*	*2.253*	*pCi/g*	*0.0*	*0.5*
BV40-005	2081923.668	749503.431	Uranium-235	0.249	NA	8	0.094	pCi/g	0.0	0.5

Location	Actual Easting	Actual Northing	Analyte	Result	Reporting Limit	WRW AL	Background Mean Plus 2 Standard Deviations	Unit	Start Depth (ft)	End Depth (ft)
BV40-005	2081923.668	749503.431	Uranium-238	4.621	NA	351	2.000	pCi/g	0.0	0.5
BV40-005	2081923.668	749503.431	Vanadium	50.000	NA	7150	45.590	mg/kg	0.0	0.5
BV40-005	2081923.668	749503.431	Butylbenzylphthalate	180.000	73.000	147000000	NA	µg/kg	0.5	1.3
BV40-005	2081923.668	749503.431	Uranium-238	1.576	NA	351	1.490	pCi/g	0.5	1.3
BV40-006	2081935.238	749519.927	Aluminum	17000.000	NA	228000	16902.000	mg/kg	0.0	0.5
BV40-006	2081935.238	749519.927	Beryllium	1.100	NA	921	0.966	mg/kg	0.0	0.5
BV40-006	*2081935.238*	*749519.927*	*Uranium-234*	*3.815*	NA	*300*	*2.253*	*pCi/g*	*0.0*	*0.5*
BV40-006	2081935.238	749519.927	Uranium-235	0.189	NA	8	0.094	pCi/g	0.0	0.5
BV40-006	2081935.238	749519.927	Uranium-238	3.815	NA	351	2.000	pCi/g	0.0	0.5
BV40-007	2081917.435	749536.136	Antimony	0.530	NA	409	0.470	mg/kg	0.0	0.5
BV40-007	2081917.435	749536.136	Benzo(a)anthracene	50.000	26.000	34900	NA	µg/kg	0.0	0.5
BV40-007	2081917.435	749536.136	Benzo(a)pyrene	64.000	43.000	3490	NA	µg/kg	0.0	0.5
BV40-007	2081917.435	749536.136	Benzo(b)fluoranthene	73.000	31.000	34900	NA	µg/kg	0.0	0.5
BV40-007	2081917.435	749536.136	Chrysene	62.000	30.000	3490000	NA	µg/kg	0.0	0.5
BV40-007	2081917.435	749536.136	Fluoranthene	100.000	24.000	27200000	NA	µg/kg	0.0	0.5
BV40-007	2081917.435	749536.136	Indeno(1,2,3-cd)pyrene	47.000	24.000	34900	NA	µg/kg	0.0	0.5
BV40-007	2081917.435	749536.136	Strontium	52.000	NA	613000	48.940	mg/kg	0.0	0.5
BV40-007	*2081917.435*	*749536.136*	*Uranium-234*	*3.138*	NA	*300*	*2.253*	*pCi/g*	*0.0*	*0.5*
BV40-007	2081917.435	749536.136	Uranium-235	0.208	NA	8	0.094	pCi/g	0.0	0.5
BV40-007	2081917.435	749536.136	Uranium-238	3.138	NA	351	2.000	pCi/g	0.0	0.5
BV40-007	2081917.435	749536.136	Vanadium	56.000	NA	7150	45.590	mg/kg	0.0	0.5
BV40-007	2081917.435	749536.136	Acenaphthene	140.000	33.000	40800000	NA	µg/kg	0.5	2.5
BV40-007	2081917.435	749536.136	Anthracene	230.000	25.000	204000000	NA	µg/kg	0.5	2.5
BV40-007	2081917.435	749536.136	Benzo(a)anthracene	340.000	26.000	34900	NA	µg/kg	0.5	2.5
BV40-007	2081917.435	749536.136	Benzo(a)pyrene	340.000	43.000	3490	NA	µg/kg	0.5	2.5
BV40-007	2081917.435	749536.136	Benzo(b)fluoranthene	240.000	31.000	34900	NA	µg/kg	0.5	2.5
BV40-007	2081917.435	749536.136	Benzo(k)fluoranthene	270.000	34.000	349000	NA	µg/kg	0.5	2.5
BV40-007	2081917.435	749536.136	Chrysene	350.000	30.000	3490000	NA	µg/kg	0.5	2.5
BV40-007	2081917.435	749536.136	Dibenzofuran	56.000	38.000	2950000	NA	µg/kg	0.5	2.5
BV40-007	2081917.435	749536.136	Fluoranthene	770.000	24.000	27200000	NA	µg/kg	0.5	2.5
BV40-007	2081917.435	749536.136	Fluorene	120.000	36.000	40800000	NA	µg/kg	0.5	2.5

Location	Actual Easting	Actual Northing	Analyte	Result	Reporting Limit	WRW AL	Background Mean Plus 2 Standard Deviations	Unit	Start Depth (ft)	End Depth (ft)
BV40-007	2081917.435	749536.136	Naphthalene	64.000	34.000	3090000	NA	µg/kg	0.5	2.5
BV40-007	2081917.435	749536.136	Pyrene	860.000	140.000	22100000	NA	µg/kg	0.5	2.5
BV40-007	*2081917.435*	*749536.136*	*Uranium-234*	*3.909*	NA	*300*	*2.640*	*pCi/g*	*0.5*	*2.5*
BV40-007	2081917.435	749536.136	Uranium-235	0.295	NA	8	0.120	pCi/g	0.5	2.5
BV40-007	2081917.435	749536.136	Uranium-238	3.909	NA	351	1.490	pCi/g	0.5	2.5
BV40-008	*2081933.659*	*749472.810*	*Uranium-234*	*4.376*	NA	*300*	*2.253*	*pCi/g*	*0.0*	*0.5*
BV40-008	2081933.659	749472.810	Uranium-235	0.196	NA	8	0.094	pCi/g	0.0	0.5
BV40-008	2081933.659	749472.810	Uranium-238	4.376	NA	351	2.000	pCi/g	0.0	0.5
BV40-008	*2081933.659*	*749472.810*	*Uranium-234*	*3.301*	NA	*300*	*2.640*	*pCi/g*	*0.5*	*1.2*
BV40-008	2081933.659	749472.810	Uranium-238	3.301	NA	351	1.490	pCi/g	0.5	1.2
BV40-009	2081918.656	749459.465	Acetone	5.600	5.000	102000000	NA	µg/kg	0.0	0.5
BV40-009	2081918.656	749459.465	Americium-241	0.040	NA	76	0.023	pCi/g	0.0	0.5
BV40-009	2081918.656	749459.465	Acetone	190.000	5.100	102000000	NA	µg/kg	0.5	1.0
BV40-009	2081918.656	749459.465	Uranium-235	0.149	NA	8	0.120	pCi/g	0.5	1.0
BV40-010	2081922.662	749433.503	Aluminum	18000.000	NA	228000	16902.000	mg/kg	0.0	0.5
BV40-010	2081922.662	749433.503	Antimony	0.770	NA	409	0.470	mg/kg	0.0	0.5
BV40-010	2081922.662	749433.503	Beryllium	1.100	NA	921	0.966	mg/kg	0.0	0.5
BV40-010	2081922.662	749433.503	bis(2-Ethylhexyl)phthalate	140.000	78.000	1970000	NA	µg/kg	0.0	0.5
BV40-010	2081922.662	749433.503	Chromium	28.000	NA	268	16.990	mg/kg	0.0	0.5
BV40-010	2081922.662	749433.503	Copper	26.000	NA	40900	18.060	mg/kg	0.0	0.5
BV40-010	2081922.662	749433.503	Nickel	19.000	NA	20400	14.910	mg/kg	0.0	0.5
BV40-010	*2081922.662*	*749433.503*	*Uranium-234*	*5.295*	NA	*300*	*2.253*	*pCi/g*	*0.0*	*0.5*
BV40-010	2081922.662	749433.503	Uranium-235	0.216	NA	8	0.094	pCi/g	0.0	0.5
BV40-010	2081922.662	749433.503	Uranium-238	5.295	NA	351	2.000	pCi/g	0.0	0.5
BV40-010	*2081922.662*	*749433.503*	*Uranium-234*	*3.266*	NA	*300*	*2.640*	*pCi/g*	*0.5*	*1.2*
BV40-010	2081922.662	749433.503	Uranium-235	0.175	NA	8	0.120	pCi/g	0.5	1.2
BV40-010	2081922.662	749433.503	Uranium-238	3.266	NA	351	1.490	pCi/g	0.5	1.2
BV40-011	2081864.973	749388.682	2,4-Dimethylphenol	47.000	37.000	20400000	NA	µg/kg	0.0	0.5
BV40-011	2081864.973	749388.682	2-Methylnaphthalene	700.000	32.000	20400000	NA	µg/kg	0.0	0.5
BV40-011	2081864.973	749388.682	4-Methylphenol	83.000	55.000	3690000	NA	µg/kg	0.0	0.5
BV40-011	2081864.973	749388.682	Acenaphthene	1500.000	31.000	40800000	NA	µg/kg	0.0	0.5

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BV40-011	2081864.973	749388.682	Anthracene	1400.000	24.000	204000000	NA	µg/kg	0.0	0.5
BV40-011	2081864.973	749388.682	Benzo(a)anthracene	1400.000	25.000	34900	NA	µg/kg	0.0	0.5
BV40-011	2081864.973	749388.682	Benzo(a)pyrene	1300.000	40.000	3490	NA	µg/kg	0.0	0.5
BV40-011	2081864.973	749388.682	Benzo(b)fluoranthene	900.000	29.000	34900	NA	µg/kg	0.0	0.5
BV40-011	2081864.973	749388.682	Benzo(k)fluoranthene	980.000	32.000	349000	NA	µg/kg	0.0	0.5
BV40-011	2081864.973	749388.682	Chrysene	1400.000	28.000	3490000	NA	µg/kg	0.0	0.5
BV40-011	2081864.973	749388.682	Dibenzofuran	650.000	36.000	2950000	NA	µg/kg	0.0	0.5
BV40-011	2081864.973	749388.682	Fluoranthene	4300.000	23.000	27200000	NA	µg/kg	0.0	0.5
BV40-011	2081864.973	749388.682	Fluorene	1200.000	34.000	40800000	NA	µg/kg	0.0	0.5
BV40-011	2081864.973	749388.682	Indeno(1,2,3-cd)pyrene	800.000	23.000	34900	NA	µg/kg	0.0	0.5
BV40-011	2081864.973	749388.682	Naphthalene	2800.000	32.000	3090000	NA	µg/kg	0.0	0.5
BV40-011	2081864.973	749388.682	Pyrene	3000.000	130.000	22100000	NA	µg/kg	0.0	0.5
BV40-011	*2081864.973*	*749388.682*	*Uranium-234*	*3.900*	NA	*300*	*2.253*	*pCi/g*	*0.0*	*0.5*
BV40-011	2081864.973	749388.682	Uranium-235	0.185	NA	8	0.094	pCi/g	0.0	0.5
BV40-011	2081864.973	749388.682	Uranium-238	3.900	NA	351	2.000	pCi/g	0.0	0.5
BV40-011	2081864.973	749388.682	Acenaphthene	79.000	32.000	40800000	NA	µg/kg	0.5	2.5
BV40-011	2081864.973	749388.682	Anthracene	90.000	25.000	204000000	NA	µg/kg	0.5	2.5
BV40-011	2081864.973	749388.682	Benzo(a)anthracene	150.000	26.000	34900	NA	µg/kg	0.5	2.5
BV40-011	2081864.973	749388.682	Benzo(a)pyrene	130.000	42.000	3490	NA	µg/kg	0.5	2.5
BV40-011	2081864.973	749388.682	Benzo(b)fluoranthene	130.000	30.000	34900	NA	µg/kg	0.5	2.5
BV40-011	2081864.973	749388.682	Benzo(k)fluoranthene	95.000	33.000	349000	NA	µg/kg	0.5	2.5
BV40-011	2081864.973	749388.682	Chrysene	150.000	29.000	3490000	NA	µg/kg	0.5	2.5
BV40-011	2081864.973	749388.682	Fluoranthene	360.000	23.000	27200000	NA	µg/kg	0.5	2.5
BV40-011	2081864.973	749388.682	Fluorene	60.000	35.000	40800000	NA	µg/kg	0.5	2.5
BV40-011	2081864.973	749388.682	Indeno(1,2,3-cd)pyrene	84.000	23.000	34900	NA	µg/kg	0.5	2.5
BV40-011	2081864.973	749388.682	Naphthalene	58.000	33.000	3090000	NA	µg/kg	0.5	2.5
BV40-011	2081864.973	749388.682	Pyrene	340.000	140.000	22100000	NA	µg/kg	0.5	2.5
BV40-011	*2081864.973*	*749388.682*	*Uranium-234*	*3.504*	NA	*300*	*2.640*	*pCi/g*	*0.5*	*2.5*
BV40-011	2081864.973	749388.682	Uranium-235	0.121	NA	8	0.120	pCi/g	0.5	2.5
BV40-011	2081864.973	749388.682	Uranium-238	3.504	NA	351	1.490	pCi/g	0.5	2.5
BV40-012	2081917.661	749410.442	Butylbenzylphthalate	200.000	73.000	147000000	NA	µg/kg	0.0	0.5

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BV40-012	2081917.661	749410.442	Uranium-235	0.145	NA	8	0.094	pCi/g	0.0	0.5
BV40-012	2081917.661	749410.442	Butylbenzylphthalate	790.000	73.000	147000000	NA	µg/kg	0.5	0.9
BV40-012	2081917.661	749410.442	Uranium-235	0.172	NA	8	0.120	pCi/g	0.5	0.9
BW40-000	2081959.445	749557.557	Benzo(a)anthracene	94.000	32.000	34900	NA	µg/kg	0.0	0.5
BW40-000	2081959.445	749557.557	Benzo(b)fluoranthene	82.000	38.000	34900	NA	µg/kg	0.0	0.5
BW40-000	2081959.445	749557.557	Benzo(k)fluoranthene	100.000	42.000	349000	NA	µg/kg	0.0	0.5
BW40-000	2081959.445	749557.557	Chrysene	110.000	36.000	3490000	NA	µg/kg	0.0	0.5
BW40-000	2081959.445	749557.557	Fluoranthene	230.000	30.000	27200000	NA	µg/kg	0.0	0.5
BW40-000	2081959.445	749557.557	Pyrene	230.000	170.000	22100000	NA	µg/kg	0.0	0.5
BW40-000	*2081959.445*	*749557.557*	*Uranium-234*	*3.388*	NA	*300*	*2.253*	*pCi/g*	*0.0*	*0.5*
BW40-000	2081959.445	749557.557	Uranium-235	0.191	NA	8	0.094	pCi/g	0.0	0.5
BW40-000	2081959.445	749557.557	Uranium-238	3.388	NA	351	2.000	pCi/g	0.0	0.5
BW40-000	2081959.445	749557.557	2-Methylnaphthalene	120.000	35.000	20400000	NA	µg/kg	0.5	1.2
BW40-000	2081959.445	749557.557	Acenaphthene	610.000	33.000	40800000	NA	µg/kg	0.5	1.2
BW40-000	2081959.445	749557.557	Anthracene	1100.000	26.000	204000000	NA	µg/kg	0.5	1.2
BW40-000	2081959.445	749557.557	Benzo(a)anthracene	2100.000	27.000	34900	NA	µg/kg	0.5	1.2
BW40-000	2081959.445	749557.557	Benzo(a)pyrene	2000.000	44.000	3490	NA	µg/kg	0.5	1.2
BW40-000	2081959.445	749557.557	Benzo(b)fluoranthene	2200.000	31.000	34900	NA	µg/kg	0.5	1.2
BW40-000	2081959.445	749557.557	Benzo(k)fluoranthene	1100.000	35.000	349000	NA	µg/kg	0.5	1.2
BW40-000	2081959.445	749557.557	Chrysene	2000.000	30.000	3490000	NA	µg/kg	0.5	1.2
BW40-000	2081959.445	749557.557	Dibenz(a,h)anthracene	350.000	27.000	3490	NA	µg/kg	0.5	1.2
BW40-000	2081959.445	749557.557	Dibenzofuran	270.000	39.000	2950000	NA	µg/kg	0.5	1.2
BW40-000	2081959.445	749557.557	Fluoranthene	5300.000	25.000	27200000	NA	µg/kg	0.5	1.2
BW40-000	2081959.445	749557.557	Fluorene	640.000	37.000	40800000	NA	µg/kg	0.5	1.2
BW40-000	2081959.445	749557.557	Indeno(1,2,3-cd)pyrene	1200.000	25.000	34900	NA	µg/kg	0.5	1.2
BW40-000	2081959.445	749557.557	Naphthalene	160.000	35.000	3090000	NA	µg/kg	0.5	1.2
BW40-000	2081959.445	749557.557	Pyrene	4300.000	150.000	22100000	NA	µg/kg	0.5	1.2
BW40-000	*2081959.445*	*749557.557*	*Uranium-234*	*4.593*	NA	*300*	*2.640*	*pCi/g*	*0.5*	*1.2*
BW40-000	2081959.445	749557.557	Uranium-235	0.215	NA	8	0.120	pCi/g	0.5	1.2
BW40-000	2081959.445	749557.557	Uranium-238	4.593	NA	351	1.490	pCi/g	0.5	1.2
BW40-001	2082000.038	749552.409	Aluminum	18000.000	NA	228000	16902.000	mg/kg	0.0	0.5

Location	Actual Easting	Actual Northing	Analyte	Result	Reporting Limit	WRW AL	Background Mean Plus 2 Standard Deviations	Unit	Start Depth (ft)	End Depth (ft)
BW40-001	2082000.038	749552.409	Anthracene	54.000	25.000	204000000	NA	µg/kg	0.0	0.5
BW40-001	2082000.038	749552.409	Benzo(a)anthracene	130.000	26.000	34900	NA	µg/kg	0.0	0.5
BW40-001	2082000.038	749552.409	Benzo(a)pyrene	160.000	43.000	3490	NA	µg/kg	0.0	0.5
BW40-001	2082000.038	749552.409	Benzo(b)fluoranthene	170.000	31.000	34900	NA	µg/kg	0.0	0.5
BW40-001	2082000.038	749552.409	Benzo(k)fluoranthene	93.000	34.000	349000	NA	µg/kg	0.0	0.5
BW40-001	2082000.038	749552.409	Chrysene	190.000	30.000	3490000	NA	µg/kg	0.0	0.5
BW40-001	2082000.038	749552.409	Fluoranthene	300.000	24.000	27200000	NA	µg/kg	0.0	0.5
BW40-001	2082000.038	749552.409	Indeno(1,2,3-cd)pyrene	98.000	24.000	34900	NA	µg/kg	0.0	0.5
BW40-001	2082000.038	749552.409	Lithium	12.000	NA	20400	11.550	mg/kg	0.0	0.5
BW40-001	2082000.038	749552.409	Pyrene	270.000	140.000	22100000	NA	µg/kg	0.0	0.5
BW40-001	*2082000.038*	*749552.409*	*Uranium-234*	*3.613*	NA	*300*	*2.253*	*pCi/g*	*0.0*	*0.5*
BW40-001	2082000.038	749552.409	Uranium-235	0.234	NA	8	0.094	pCi/g	0.0	0.5
BW40-001	2082000.038	749552.409	Uranium-238	3.613	NA	351	2.000	pCi/g	0.0	0.5
BW40-001	2082000.038	749552.409	1,1-Dichloroethene	23.800	5.800	17000	NA	µg/kg	0.5	2.5
BW40-001	2082000.038	749552.409	1,2-Dichloropropane	13.000	5.800	345000	NA	µg/kg	0.5	2.5
BW40-001	2082000.038	749552.409	Acenaphthene	90.000	34.000	40800000	NA	µg/kg	0.5	2.5
BW40-001	2082000.038	749552.409	Anthracene	140.000	26.000	204000000	NA	µg/kg	0.5	2.5
BW40-001	2082000.038	749552.409	Benzo(a)anthracene	340.000	27.000	34900	NA	µg/kg	0.5	2.5
BW40-001	2082000.038	749552.409	Benzo(a)pyrene	350.000	44.000	3490	NA	µg/kg	0.5	2.5
BW40-001	2082000.038	749552.409	Benzo(b)fluoranthene	390.000	31.000	34900	NA	µg/kg	0.5	2.5
BW40-001	2082000.038	749552.409	Benzo(k)fluoranthene	230.000	35.000	349000	NA	µg/kg	0.5	2.5
BW40-001	2082000.038	749552.409	Chrysene	380.000	30.000	3490000	NA	µg/kg	0.5	2.5
BW40-001	2082000.038	749552.409	Dibenz(a,h)anthracene	72.000	27.000	3490	NA	µg/kg	0.5	2.5
BW40-001	2082000.038	749552.409	Dibenzofuran	45.000	39.000	2950000	NA	µg/kg	0.5	2.5
BW40-001	2082000.038	749552.409	Fluoranthene	640.000	25.000	27200000	NA	µg/kg	0.5	2.5
BW40-001	2082000.038	749552.409	Fluorene	60.000	37.000	40800000	NA	µg/kg	0.5	2.5
BW40-001	2082000.038	749552.409	Indeno(1,2,3-cd)pyrene	230.000	25.000	34900	NA	µg/kg	0.5	2.5
BW40-001	2082000.038	749552.409	Pyrene	690.000	150.000	22100000	NA	µg/kg	0.5	2.5
BW40-001	*2082000.038*	*749552.409*	*Uranium-234*	*4.645*	NA	*300*	*2.640*	*pCi/g*	*0.5*	*2.5*
BW40-001	2082000.038	749552.409	Uranium-235	0.211	NA	8	0.120	pCi/g	0.5	2.5
BW40-001	2082000.038	749552.409	Uranium-238	4.645	NA	351	1.490	pCi/g	0.5	2.5

Location	Actual Easting	Actual Northing	Analyte	Result	Reporting Limit	WRW AL	Background Mean Plus 2 Standard Deviations	Unit	Start Depth (ft)	End Depth (ft)
BW40-002	2082030.671	749547.088	2,4-Dimethylphenol	88.000	39.000	20400000	NA	µg/kg	0.0	0.5
BW40-002	2082030.671	749547.088	2-Methylnaphthalene	1500.000	33.000	20400000	NA	µg/kg	0.0	0.5
BW40-002	2082030.671	749547.088	4-Methylphenol	120.000	57.000	3690000	NA	µg/kg	0.0	0.5
BW40-002	2082030.671	749547.088	Acenaphthene	8100.000	320.000	40800000	NA	µg/kg	0.0	0.5
BW40-002	2082030.671	749547.088	Anthracene	10000.000	250.000	204000000	NA	µg/kg	0.0	0.5
BW40-002	2082030.671	749547.088	Benzo(a)anthracene	19000.000	260.000	34900	NA	µg/kg	0.0	0.5
BW40-002	**2082030.671**	**749547.088**	**Benzo(a)pyrene**	**17000.000**	**420.000**	**3490**	**NA**	**µg/kg**	**0.0**	**0.5**
BW40-002	2082030.671	749547.088	Benzo(b)fluoranthene	26000.000	300.000	34900	NA	µg/kg	0.0	0.5
BW40-002	2082030.671	749547.088	Chrysene	18000.000	290.000	3490000	NA	µg/kg	0.0	0.5
BW40-002	**2082030.671**	**749547.088**	**Dibenz(a,h)anthracene**	**3500.000**	**26.000**	**3490**	**NA**	**µg/kg**	**0.0**	**0.5**
BW40-002	2082030.671	749547.088	Dibenzofuran	3200.000	37.000	2950000	NA	µg/kg	0.0	0.5
BW40-002	2082030.671	749547.088	Fluoranthene	48000.000	240.000	27200000	NA	µg/kg	0.0	0.5
BW40-002	2082030.671	749547.088	Fluorene	6800.000	350.000	40800000	NA	µg/kg	0.0	0.5
BW40-002	2082030.671	749547.088	Indeno(1,2,3-cd)pyrene	9900.000	240.000	34900	NA	µg/kg	0.0	0.5
BW40-002	2082030.671	749547.088	Naphthalene	3900.000	33.000	3090000	NA	µg/kg	0.0	0.5
BW40-002	2082030.671	749547.088	Pyrene	45000.000	1400.000	22100000	NA	µg/kg	0.0	0.5
BW40-002	*2082030.671*	*749547.088*	*Uranium-234*	*5.180*	NA	*300*	*2.253*	*pCi/g*	*0.0*	*0.5*
BW40-002	2082030.671	749547.088	Uranium-238	5.180	NA	351	2.000	pCi/g	0.0	0.5
BW40-002	2082030.671	749547.088	Benzo(a)anthracene	46.000	28.000	34900	NA	µg/kg	0.5	2.5
BW40-002	2082030.671	749547.088	Benzo(a)pyrene	130.000	45.000	3490	NA	µg/kg	0.5	2.5
BW40-002	2082030.671	749547.088	Benzo(b)fluoranthene	160.000	32.000	34900	NA	µg/kg	0.5	2.5
BW40-002	2082030.671	749547.088	Chrysene	48.000	31.000	3490000	NA	µg/kg	0.5	2.5
BW40-002	2082030.671	749547.088	Fluoranthene	91.000	26.000	27200000	NA	µg/kg	0.5	2.5
BW40-002	2082030.671	749547.088	Indeno(1,2,3-cd)pyrene	100.000	26.000	34900	NA	µg/kg	0.5	2.5
BW40-002	2082030.671	749547.088	Uranium-238	1.688	NA	351	1.490	pCi/g	0.5	2.5
BW40-003	2081972.261	749524.331	Anthracene	44.000	25.000	204000000	NA	µg/kg	0.0	0.5
BW40-003	2081972.261	749524.331	Benzo(a)anthracene	130.000	27.000	34900	NA	µg/kg	0.0	0.5
BW40-003	2081972.261	749524.331	Benzo(a)pyrene	140.000	43.000	3490	NA	µg/kg	0.0	0.5
BW40-003	2081972.261	749524.331	Benzo(b)fluoranthene	150.000	31.000	34900	NA	µg/kg	0.0	0.5
BW40-003	2081972.261	749524.331	Benzo(k)fluoranthene	80.000	34.000	349000	NA	µg/kg	0.0	0.5
BW40-003	2081972.261	749524.331	Chrysene	150.000	30.000	3490000	NA	µg/kg	0.0	0.5

Location	Actual Easting	Actual Northing	Analyte	Result	Reporting Limit	WRW AL	Background Mean Plus 2 Standard Deviations	Unit	Start Depth (ft)	End Depth (ft)
BW40-003	2081972.261	749524.331	Fluoranthene	260.000	24.000	27200000	NA	µg/kg	0.0	0.5
BW40-003	2081972.261	749524.331	Indeno(1,2,3-cd)pyrene	100.000	24.000	34900	NA	µg/kg	0.0	0.5
BW40-003	2081972.261	749524.331	Pyrene	230.000	140.000	22100000	NA	µg/kg	0.0	0.5
BW40-003	*2081972.261*	*749524.331*	*Uranium-234*	*2.263*	NA	*300*	*2.253*	*pCi/g*	*0.0*	*0.5*
BW40-003	2081972.261	749524.331	Uranium-235	0.243	NA	8	0.094	pCi/g	0.0	0.5
BW40-003	2081972.261	749524.331	Uranium-238	2.263	NA	351	2.000	pCi/g	0.0	0.5
BW40-003	2081972.261	749524.331	Benzo(a)anthracene	61.000	26.000	34900	NA	µg/kg	0.5	2.5
BW40-003	2081972.261	749524.331	Benzo(a)pyrene	55.000	42.000	3490	NA	µg/kg	0.5	2.5
BW40-003	2081972.261	749524.331	Chrysene	58.000	29.000	3490000	NA	µg/kg	0.5	2.5
BW40-003	2081972.261	749524.331	Fluoranthene	130.000	23.000	27200000	NA	µg/kg	0.5	2.5
BW40-003	2081972.261	749524.331	Pentachlorophenol	350.000	120.000	162000	NA	µg/kg	0.5	2.5
BW40-003	*2081972.261*	*749524.331*	*Uranium-234*	*5.058*	NA	*300*	*2.640*	*pCi/g*	*0.5*	*2.5*
BW40-003	2081972.261	749524.331	Uranium-235	0.152	NA	8	0.120	pCi/g	0.5	2.5
BW40-003	2081972.261	749524.331	Uranium-238	5.058	NA	351	1.490	pCi/g	0.5	2.5
BW40-005	2081948.299	749498.944	Acenaphthene	210.000	32.000	40800000	NA	µg/kg	0.0	0.5
BW40-005	2081948.299	749498.944	Aluminum	18000.000	NA	228000	16902.000	mg/kg	0.0	0.5
BW40-005	2081948.299	749498.944	Anthracene	440.000	24.000	204000000	NA	µg/kg	0.0	0.5
BW40-005	2081948.299	749498.944	Benzo(a)anthracene	830.000	25.000	34900	NA	µg/kg	0.0	0.5
BW40-005	2081948.299	749498.944	Benzo(a)pyrene	830.000	41.000	3490	NA	µg/kg	0.0	0.5
BW40-005	2081948.299	749498.944	Benzo(b)fluoranthene	400.000	30.000	34900	NA	µg/kg	0.0	0.5
BW40-005	2081948.299	749498.944	Benzo(k)fluoranthene	810.000	33.000	349000	NA	µg/kg	0.0	0.5
BW40-005	2081948.299	749498.944	Beryllium	1.000	NA	921	0.966	mg/kg	0.0	0.5
BW40-005	2081948.299	749498.944	bis(2-Ethylhexyl)phthalate	3100.000	74.000	1970000	NA	µg/kg	0.0	0.5
BW40-005	2081948.299	749498.944	Butylbenzylphthalate	7100.000	270.000	147000000	NA	µg/kg	0.0	0.5
BW40-005	2081948.299	749498.944	Chromium	17.000	NA	268	16.990	mg/kg	0.0	0.5
BW40-005	2081948.299	749498.944	Chrysene	580.000	29.000	3490000	NA	µg/kg	0.0	0.5
BW40-005	2081948.299	749498.944	Copper	20.000	NA	40900	18.060	mg/kg	0.0	0.5
BW40-005	2081948.299	749498.944	Dibenz(a,h)anthracene	140.000	25.000	3490	NA	µg/kg	0.0	0.5
BW40-005	2081948.299	749498.944	Dibenzofuran	80.000	37.000	2950000	NA	µg/kg	0.0	0.5
BW40-005	2081948.299	749498.944	Di-n-butylphthalate	360.000	21.000	73700000	NA	µg/kg	0.0	0.5
BW40-005	2081948.299	749498.944	Fluoranthene	1500.000	23.000	27200000	NA	µg/kg	0.0	0.5

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BW40-005	2081948.299	749498.944	Fluorene	170.000	35.000	40800000	NA	µg/kg	0.0	0.5
BW40-005	2081948.299	749498.944	Indeno(1,2,3-cd)pyrene	300.000	23.000	34900	NA	µg/kg	0.0	0.5
BW40-005	2081948.299	749498.944	Lead	87.000	NA	1000	54.620	mg/kg	0.0	0.5
BW40-005	2081948.299	749498.944	Naphthalene	78.000	33.000	3090000	NA	µg/kg	0.0	0.5
BW40-005	2081948.299	749498.944	Nickel	15.000	NA	20400	14.910	mg/kg	0.0	0.5
BW40-005	2081948.299	749498.944	Pyrene	1500.000	140.000	22100000	NA	µg/kg	0.0	0.5
BW40-005	2081948.299	749498.944	Uranium, Total	6.200	NA	2750	5.980	mg/kg	0.0	0.5
BW40-005	2081948.299	749498.944	Uranium-235	0.140	NA	8	0.094	pCi/g	0.0	0.5
BW40-005	2081948.299	749498.944	2-Methylnaphthalene	420.000	36.000	20400000	NA	µg/kg	0.5	1.0
BW40-005	2081948.299	749498.944	Acenaphthene	1300.000	35.000	40800000	NA	µg/kg	0.5	1.0
BW40-005	2081948.299	749498.944	Anthracene	1400.000	27.000	204000000	NA	µg/kg	0.5	1.0
BW40-005	2081948.299	749498.944	Benzo(a)anthracene	2600.000	28.000	34900	NA	µg/kg	0.5	1.0
BW40-005	2081948.299	749498.944	Benzo(a)pyrene	2700.000	45.000	3490	NA	µg/kg	0.5	1.0
BW40-005	2081948.299	749498.944	Benzo(b)fluoranthene	1900.000	33.000	34900	NA	µg/kg	0.5	1.0
BW40-005	2081948.299	749498.944	Benzo(k)fluoranthene	2400.000	36.000	349000	NA	µg/kg	0.5	1.0
BW40-005	2081948.299	749498.944	bis(2-Ethylhexyl)phthalate	220.000	82.000	1970000	NA	µg/kg	0.5	1.0
BW40-005	2081948.299	749498.944	Butylbenzylphthalate	410.000	75.000	147000000	NA	µg/kg	0.5	1.0
BW40-005	2081948.299	749498.944	Cadmium	2.200	NA	962	1.700	mg/kg	0.5	1.0
BW40-005	2081948.299	749498.944	Chrysene	2600.000	31.000	3490000	NA	µg/kg	0.5	1.0
BW40-005	2081948.299	749498.944	Copper	41.000	NA	40900	38.210	mg/kg	0.5	1.0
BW40-005	2081948.299	749498.944	Dibenz(a,h)anthracene	570.000	28.000	3490	NA	µg/kg	0.5	1.0
BW40-005	2081948.299	749498.944	Dibenzofuran	540.000	41.000	2950000	NA	µg/kg	0.5	1.0
BW40-005	2081948.299	749498.944	Di-n-butylphthalate	39.000	23.000	73700000	NA	µg/kg	0.5	1.0
BW40-005	2081948.299	749498.944	Fluoranthene	7500.000	26.000	27200000	NA	µg/kg	0.5	1.0
BW40-005	2081948.299	749498.944	Fluorene	990.000	38.000	40800000	NA	µg/kg	0.5	1.0
BW40-005	2081948.299	749498.944	Indeno(1,2,3-cd)pyrene	1700.000	26.000	34900	NA	µg/kg	0.5	1.0
BW40-005	2081948.299	749498.944	Lead	170.000	NA	1000	24.970	mg/kg	0.5	1.0
BW40-005	2081948.299	749498.944	Naphthalene	1200.000	36.000	3090000	NA	µg/kg	0.5	1.0
BW40-005	2081948.299	749498.944	Pyrene	5900.000	150.000	22100000	NA	µg/kg	0.5	1.0
BW40-005	2081948.299	749498.944	Uranium, Total	4.200	NA	2750	3.040	mg/kg	0.5	1.0
BW40-005	*2081948.299*	*749498.944*	*Uranium-234*	*2.812*	NA	*300*	*2.640*	*pCi/g*	*0.5*	*1.0*

Location	Actual Easting	Actual Northing	Analyte	Result	Reporting Limit	WRW AL	Background Mean Plus 2 Standard Deviations	Unit	Start Depth (ft)	End Depth (ft)
BW40-005	2081948.299	749498.944	Uranium-235	0.186	NA	8	0.120	pCi/g	0.5	1.0
BW40-005	2081948.299	749498.944	Uranium-238	2.812	NA	351	1.490	pCi/g	0.5	1.0
BW40-005	2081948.299	749498.944	Zinc	190.000	NA	307000	139.100	mg/kg	0.5	1.0
BW40-006	2081985.988	749490.469	Benzo(a)anthracene	220.000	25.000	34900	NA	µg/kg	0.0	0.5
BW40-006	2081985.988	749490.469	Benzo(a)pyrene	250.000	40.000	3490	NA	µg/kg	0.0	0.5
BW40-006	2081985.988	749490.469	Benzo(b)fluoranthene	400.000	29.000	34900	NA	µg/kg	0.0	0.5
BW40-006	2081985.988	749490.469	Chrysene	260.000	28.000	3490000	NA	µg/kg	0.0	0.5
BW40-006	2081985.988	749490.469	Dibenz(a,h)anthracene	58.000	25.000	3490	NA	µg/kg	0.0	0.5
BW40-006	2081985.988	749490.469	Fluoranthene	340.000	23.000	27200000	NA	µg/kg	0.0	0.5
BW40-006	2081985.988	749490.469	Indeno(1,2,3-cd)pyrene	170.000	23.000	34900	NA	µg/kg	0.0	0.5
BW40-006	2081985.988	749490.469	Pyrene	360.000	130.000	22100000	NA	µg/kg	0.0	0.5
BW40-006	2081985.988	749490.469	Uranium-235	0.101	NA	8	0.094	pCi/g	0.0	0.5
BW40-006	2081985.988	749490.469	Acenaphthene	130.000	32.000	40800000	NA	µg/kg	0.5	2.5
BW40-006	2081985.988	749490.469	Anthracene	190.000	24.000	204000000	NA	µg/kg	0.5	2.5
BW40-006	2081985.988	749490.469	Benzo(a)anthracene	310.000	26.000	34900	NA	µg/kg	0.5	2.5
BW40-006	2081985.988	749490.469	Benzo(a)pyrene	280.000	41.000	3490	NA	µg/kg	0.5	2.5
BW40-006	2081985.988	749490.469	Benzo(b)fluoranthene	310.000	30.000	34900	NA	µg/kg	0.5	2.5
BW40-006	2081985.988	749490.469	Benzo(k)fluoranthene	140.000	33.000	349000	NA	µg/kg	0.5	2.5
BW40-006	2081985.988	749490.469	Chrysene	310.000	29.000	3490000	NA	µg/kg	0.5	2.5
BW40-006	2081985.988	749490.469	Dibenz(a,h)anthracene	54.000	26.000	3490	NA	µg/kg	0.5	2.5
BW40-006	2081985.988	749490.469	Dibenzofuran	51.000	37.000	2950000	NA	µg/kg	0.5	2.5
BW40-006	2081985.988	749490.469	Fluoranthene	690.000	23.000	27200000	NA	µg/kg	0.5	2.5
BW40-006	2081985.988	749490.469	Fluorene	110.000	35.000	40800000	NA	µg/kg	0.5	2.5
BW40-006	2081985.988	749490.469	Indeno(1,2,3-cd)pyrene	140.000	23.000	34900	NA	µg/kg	0.5	2.5
BW40-006	2081985.988	749490.469	Naphthalene	54.000	33.000	3090000	NA	µg/kg	0.5	2.5
BW40-006	2081985.988	749490.469	Pyrene	740.000	140.000	22100000	NA	µg/kg	0.5	2.5
BW40-006	2081985.988	749490.469	Uranium-235	0.159	NA	8	0.120	pCi/g	0.5	2.5
BW40-008	2081963.721	749462.412	2-Methylnaphthalene	130.000	32.000	20400000	NA	µg/kg	0.0	0.5
BW40-008	2081963.721	749462.412	Acenaphthene	670.000	31.000	40800000	NA	µg/kg	0.0	0.5
BW40-008	2081963.721	749462.412	Anthracene	780.000	24.000	204000000	NA	µg/kg	0.0	0.5
BW40-008	2081963.721	749462.412	Benzo(a)anthracene	1900.000	25.000	34900	NA	µg/kg	0.0	0.5

Location	Actual Easting	Actual Northing	Analyte	Result	Reporting Limit	WRW AL	Background Mean Plus 2 Standard Deviations	Unit	Start Depth (ft)	End Depth (ft)
BW40-008	2081963.721	749462.412	Benzo(a)pyrene	2100.000	41.000	3490	NA	µg/kg	0.0	0.5
BW40-008	2081963.721	749462.412	Benzo(b)fluoranthene	3300.000	29.000	34900	NA	µg/kg	0.0	0.5
BW40-008	2081963.721	749462.412	bis(2-Ethylhexyl)phthalate	300.000	73.000	1970000	NA	µg/kg	0.0	0.5
BW40-008	2081963.721	749462.412	Chrysene	2100.000	28.000	3490000	NA	µg/kg	0.0	0.5
BW40-008	2081963.721	749462.412	Dibenz(a,h)anthracene	360.000	25.000	3490	NA	µg/kg	0.0	0.5
BW40-008	2081963.721	749462.412	Dibenzofuran	230.000	37.000	2950000	NA	µg/kg	0.0	0.5
BW40-008	2081963.721	749462.412	Fluoranthene	5800.000	23.000	27200000	NA	µg/kg	0.0	0.5
BW40-008	2081963.721	749462.412	Fluorene	480.000	35.000	40800000	NA	µg/kg	0.0	0.5
BW40-008	2081963.721	749462.412	Indeno(1,2,3-cd)pyrene	1300.000	23.000	34900	NA	µg/kg	0.0	0.5
BW40-008	2081963.721	749462.412	Naphthalene	330.000	32.000	3090000	NA	µg/kg	0.0	0.5
BW40-008	2081963.721	749462.412	Pyrene	4100.000	140.000	22100000	NA	µg/kg	0.0	0.5
BW40-008	2081963.721	749462.412	2-Methylnaphthalene	43.000	33.000	20400000	NA	µg/kg	0.8	2.5
BW40-008	2081963.721	749462.412	Acenaphthene	290.000	32.000	40800000	NA	µg/kg	0.8	2.5
BW40-008	2081963.721	749462.412	Anthracene	340.000	25.000	204000000	NA	µg/kg	0.8	2.5
BW40-008	2081963.721	749462.412	Benzo(a)anthracene	810.000	26.000	34900	NA	µg/kg	0.8	2.5
BW40-008	2081963.721	749462.412	Benzo(a)pyrene	840.000	42.000	3490	NA	µg/kg	0.8	2.5
BW40-008	2081963.721	749462.412	Benzo(b)fluoranthene	1300.000	30.000	34900	NA	µg/kg	0.8	2.5
BW40-008	2081963.721	749462.412	bis(2-Ethylhexyl)phthalate	230.000	76.000	1970000	NA	µg/kg	0.8	2.5
BW40-008	2081963.721	749462.412	Chrysene	830.000	29.000	3490000	NA	µg/kg	0.8	2.5
BW40-008	2081963.721	749462.412	Dibenz(a,h)anthracene	170.000	26.000	3490	NA	µg/kg	0.8	2.5
BW40-008	2081963.721	749462.412	Dibenzofuran	90.000	38.000	2950000	NA	µg/kg	0.8	2.5
BW40-008	2081963.721	749462.412	Fluoranthene	2000.000	24.000	27200000	NA	µg/kg	0.8	2.5
BW40-008	2081963.721	749462.412	Fluorene	210.000	36.000	40800000	NA	µg/kg	0.8	2.5
BW40-008	2081963.721	749462.412	Indeno(1,2,3-cd)pyrene	510.000	24.000	34900	NA	µg/kg	0.8	2.5
BW40-008	2081963.721	749462.412	Naphthalene	83.000	33.000	3090000	NA	µg/kg	0.8	2.5
BW40-008	2081963.721	749462.412	Pyrene	1600.000	140.000	22100000	NA	µg/kg	0.8	2.5
BW40-009	2081999.278	749457.071	Acenaphthene	72.000	34.000	40800000	NA	µg/kg	0.0	0.5
BW40-009	2081999.278	749457.071	Anthracene	96.000	26.000	204000000	NA	µg/kg	0.0	0.5
BW40-009	2081999.278	749457.071	Benzo(a)anthracene	350.000	27.000	34900	NA	µg/kg	0.0	0.5
BW40-009	2081999.278	749457.071	Benzo(a)pyrene	370.000	45.000	3490	NA	µg/kg	0.0	0.5
BW40-009	2081999.278	749457.071	Benzo(b)fluoranthene	550.000	32.000	34900	NA	µg/kg	0.0	0.5

Location	Actual Easting	Actual Northing	Analyte	Result	Reporting Limit	WRW AL	Background Mean Plus 2 Standard Deviations	Unit	Start Depth (ft)	End Depth (ft)
BW40-009	2081999.278	749457.071	Chrysene	360.000	31.000	3490000	NA	µg/kg	0.0	0.5
BW40-009	2081999.278	749457.071	Cobalt	28.000	NA	1550	10.910	mg/kg	0.0	0.5
BW40-009	2081999.278	749457.071	Copper	73.000	NA	40900	18.060	mg/kg	0.0	0.5
BW40-009	2081999.278	749457.071	Dibenz(a,h)anthracene	49.000	27.000	3490	NA	µg/kg	0.0	0.5
BW40-009	2081999.278	749457.071	Fluoranthene	690.000	25.000	27200000	NA	µg/kg	0.0	0.5
BW40-009	2081999.278	749457.071	Fluorene	40.000	38.000	40800000	NA	µg/kg	0.0	0.5
BW40-009	2081999.278	749457.071	Indeno(1,2,3-cd)pyrene	230.000	25.000	34900	NA	µg/kg	0.0	0.5
BW40-009	2081999.278	749457.071	Pyrene	680.000	150.000	22100000	NA	µg/kg	0.0	0.5
BW40-009	*2081999.278*	*749457.071*	*Uranium-234*	*3.864*	NA	*300*	*2.253*	*pCi/g*	*0.0*	*0.5*
BW40-009	2081999.278	749457.071	Uranium-235	0.261	NA	8	0.094	pCi/g	0.0	0.5
BW40-009	2081999.278	749457.071	Uranium-238	3.864	NA	351	2.000	pCi/g	0.0	0.5
BW40-009	2081999.278	749457.071	Anthracene	39.000	26.000	204000000	NA	µg/kg	0.5	2.5
BW40-009	2081999.278	749457.071	Benzo(a)anthracene	160.000	27.000	34900	NA	µg/kg	0.5	2.5
BW40-009	2081999.278	749457.071	Benzo(a)pyrene	160.000	44.000	3490	NA	µg/kg	0.5	2.5
BW40-009	2081999.278	749457.071	Benzo(b)fluoranthene	250.000	32.000	34900	NA	µg/kg	0.5	2.5
BW40-009	2081999.278	749457.071	Chrysene	160.000	30.000	3490000	NA	µg/kg	0.5	2.5
BW40-009	2081999.278	749457.071	Fluoranthene	300.000	25.000	27200000	NA	µg/kg	0.5	2.5
BW40-009	2081999.278	749457.071	Indeno(1,2,3-cd)pyrene	100.000	25.000	34900	NA	µg/kg	0.5	2.5
BW40-009	2081999.278	749457.071	Pyrene	290.000	150.000	22100000	NA	µg/kg	0.5	2.5
BW40-009	*2081999.278*	*749457.071*	*Uranium-234*	*3.922*	NA	*300*	*2.640*	*pCi/g*	*0.5*	*2.5*
BW40-009	2081999.278	749457.071	Uranium-238	3.922	NA	351	1.490	pCi/g	0.5	2.5
BW40-010	2082034.314	749464.546	Acenaphthene	110.000	31.000	40800000	NA	µg/kg	0.0	0.5
BW40-010	2082034.314	749464.546	Anthracene	150.000	24.000	204000000	NA	µg/kg	0.0	0.5
BW40-010	2082034.314	749464.546	Benzo(a)anthracene	390.000	25.000	34900	NA	µg/kg	0.0	0.5
BW40-010	2082034.314	749464.546	Benzo(a)pyrene	390.000	40.000	3490	NA	µg/kg	0.0	0.5
BW40-010	2082034.314	749464.546	Benzo(b)fluoranthene	590.000	29.000	34900	NA	µg/kg	0.0	0.5
BW40-010	2082034.314	749464.546	bis(2-Ethylhexyl)phthalate	200.000	73.000	1970000	NA	µg/kg	0.0	0.5
BW40-010	2082034.314	749464.546	Chrysene	430.000	28.000	3490000	NA	µg/kg	0.0	0.5
BW40-010	2082034.314	749464.546	Dibenz(a,h)anthracene	72.000	25.000	3490	NA	µg/kg	0.0	0.5
BW40-010	2082034.314	749464.546	Fluoranthene	930.000	23.000	27200000	NA	µg/kg	0.0	0.5
BW40-010	2082034.314	749464.546	Fluorene	74.000	34.000	40800000	NA	µg/kg	0.0	0.5

Location	Actual Easting	Actual Northing	Analyte	Result	Reporting Limit	WRW AL	Background Mean Plus 2 Standard Deviations	Unit	Start Depth (ft)	End Depth (ft)
BW40-010	2082034.314	749464.546	Indeno(1,2,3-cd)pyrene	230.000	23.000	34900	NA	µg/kg	0.0	0.5
BW40-010	2082034.314	749464.546	Pyrene	740.000	130.000	22100000	NA	µg/kg	0.0	0.5
BW40-010	*2082034.314*	*749464.546*	*Uranium-234*	*2.771*	NA	*300*	*2.253*	*pCi/g*	*0.0*	*0.5*
BW40-010	2082034.314	749464.546	Uranium-235	0.229	NA	8	0.094	pCi/g	0.0	0.5
BW40-010	2082034.314	749464.546	Uranium-238	2.771	NA	351	2.000	pCi/g	0.0	0.5
BW40-010	2082034.314	749464.546	Acenaphthene	150.000	32.000	40800000	NA	µg/kg	0.5	2.5
BW40-010	2082034.314	749464.546	Anthracene	240.000	24.000	204000000	NA	µg/kg	0.5	2.5
BW40-010	2082034.314	749464.546	Benzo(a)anthracene	470.000	25.000	34900	NA	µg/kg	0.5	2.5
BW40-010	2082034.314	749464.546	Benzo(a)pyrene	450.000	41.000	3490	NA	µg/kg	0.5	2.5
BW40-010	2082034.314	749464.546	Benzo(b)fluoranthene	420.000	29.000	34900	NA	µg/kg	0.5	2.5
BW40-010	2082034.314	749464.546	Benzo(k)fluoranthene	310.000	33.000	349000	NA	µg/kg	0.5	2.5
BW40-010	2082034.314	749464.546	Chrysene	460.000	28.000	3490000	NA	µg/kg	0.5	2.5
BW40-010	2082034.314	749464.546	Dibenz(a,h)anthracene	96.000	25.000	3490	NA	µg/kg	0.5	2.5
BW40-010	2082034.314	749464.546	Fluoranthene	1000.000	23.000	27200000	NA	µg/kg	0.5	2.5
BW40-010	2082034.314	749464.546	Fluorene	130.000	35.000	40800000	NA	µg/kg	0.5	2.5
BW40-010	2082034.314	749464.546	Indeno(1,2,3-cd)pyrene	270.000	23.000	34900	NA	µg/kg	0.5	2.5
BW40-010	2082034.314	749464.546	Naphthalene	66.000	33.000	3090000	NA	µg/kg	0.5	2.5
BW40-010	2082034.314	749464.546	Pyrene	970.000	140.000	22100000	NA	µg/kg	0.5	2.5
BW40-010	*2082034.314*	*749464.546*	*Uranium-234*	*4.203*	NA	*300*	*2.640*	*pCi/g*	*0.5*	*2.5*
BW40-010	2082034.314	749464.546	Uranium-235	0.202	NA	8	0.120	pCi/g	0.5	2.5
BW40-010	2082034.314	749464.546	Uranium-238	4.203	NA	351	1.490	pCi/g	0.5	2.5
BW40-018	2081937.306	749497.942	Aluminum	17000.000	NA	228000	16902.000	mg/kg	0.0	0.5
BW40-018	2081937.306	749497.942	Beryllium	1.100	NA	921	0.966	mg/kg	0.0	0.5
BW40-018	2081937.306	749497.942	Chromium	52.000	NA	268	16.990	mg/kg	0.0	0.5
BW40-018	2081937.306	749497.942	Copper	38.000	NA	40900	18.060	mg/kg	0.0	0.5
BW40-018	2081937.306	749497.942	Nickel	30.000	NA	20400	14.910	mg/kg	0.0	0.5
BW40-018	2081937.306	749497.942	Uranium-235	0.187	NA	8	0.120	pCi/g	0.5	0.9
BW40-018	2081937.306	749497.942	Uranium-238	2.213	NA	351	1.490	pCi/g	0.5	0.9
BW40-019	2081940.774	749534.564	Fluoranthene	69.000	24.000	27200000	NA	µg/kg	0.0	0.5
BW40-019	*2081940.774*	*749534.564*	*Uranium-234*	*5.739*	NA	*300*	*2.253*	*pCi/g*	*0.0*	*0.5*
BW40-019	2081940.774	749534.564	Uranium-235	0.239	NA	8	0.094	pCi/g	0.0	0.5

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BW40-019	2081940.774	749534.564	Uranium-238	5.739	NA	351	2.000	pCi/g	0.0	0.5
BW40-019	2081940.774	749534.564	Benzo(a)anthracene	37.000	27.000	34900	NA	µg/kg	0.5	2.5
BW40-019	*2081940.774*	*749534.564*	*Uranium-234*	*5.086*	NA	*300*	*2.640*	*pCi/g*	*0.5*	*2.5*
BW40-019	2081940.774	749534.564	Uranium-235	0.180	NA	8	0.120	pCi/g	0.5	2.5
BW40-019	2081940.774	749534.564	Uranium-238	5.086	NA	351	1.490	pCi/g	0.5	2.5
BW40-020	2081955.636	749524.249	2-Methylnaphthalene	730.000	69.000	20400000	NA	µg/kg	0.0	0.5
BW40-020	2081955.636	749524.249	Acenaphthene	1700.000	66.000	40800000	NA	µg/kg	0.0	0.5
BW40-020	2081955.636	749524.249	Anthracene	1700.000	51.000	204000000	NA	µg/kg	0.0	0.5
BW40-020	2081955.636	749524.249	Benzo(a)anthracene	2100.000	53.000	34900	NA	µg/kg	0.0	0.5
BW40-020	2081955.636	749524.249	Benzo(a)pyrene	2100.000	86.000	3490	NA	µg/kg	0.0	0.5
BW40-020	2081955.636	749524.249	Benzo(b)fluoranthene	1500.000	62.000	34900	NA	µg/kg	0.0	0.5
BW40-020	2081955.636	749524.249	Benzo(k)fluoranthene	1700.000	34.000	349000	NA	µg/kg	0.0	0.5
BW40-020	2081955.636	749524.249	Chromium	17.000	NA	268	16.990	mg/kg	0.0	0.5
BW40-020	2081955.636	749524.249	Chrysene	2000.000	30.000	3490000	NA	µg/kg	0.0	0.5
BW40-020	2081955.636	749524.249	Dibenzofuran	890.000	77.000	2950000	NA	µg/kg	0.0	0.5
BW40-020	2081955.636	749524.249	Fluoranthene	6400.000	49.000	27200000	NA	µg/kg	0.0	0.5
BW40-020	2081955.636	749524.249	Fluorene	1400.000	73.000	40800000	NA	µg/kg	0.0	0.5
BW40-020	2081955.636	749524.249	Indeno(1,2,3-cd)pyrene	1400.000	49.000	34900	NA	µg/kg	0.0	0.5
BW40-020	2081955.636	749524.249	Naphthalene	2400.000	34.000	3090000	NA	µg/kg	0.0	0.5
BW40-020	2081955.636	749524.249	Pyrene	5900.000	140.000	22100000	NA	µg/kg	0.0	0.5
BW40-020	2081955.636	749524.249	Uranium-235	0.138	NA	8	0.094	pCi/g	0.0	0.5
BW40-020	2081955.636	749524.249	2-Methylnaphthalene	440.000	35.000	20400000	NA	µg/kg	0.5	1.1
BW40-020	2081955.636	749524.249	Acenaphthene	1000.000	33.000	40800000	NA	µg/kg	0.5	1.1
BW40-020	2081955.636	749524.249	Anthracene	750.000	26.000	204000000	NA	µg/kg	0.5	1.1
BW40-020	2081955.636	749524.249	Benzo(a)anthracene	1200.000	27.000	34900	NA	µg/kg	0.5	1.1
BW40-020	2081955.636	749524.249	Benzo(a)pyrene	1200.000	43.000	3490	NA	µg/kg	0.5	1.1
BW40-020	2081955.636	749524.249	Benzo(b)fluoranthene	780.000	31.000	34900	NA	µg/kg	0.5	1.1
BW40-020	2081955.636	749524.249	Benzo(k)fluoranthene	1200.000	35.000	349000	NA	µg/kg	0.5	1.1
BW40-020	2081955.636	749524.249	Chrysene	1300.000	30.000	3490000	NA	µg/kg	0.5	1.1
BW40-020	2081955.636	749524.249	Dibenzofuran	520.000	39.000	2950000	NA	µg/kg	0.5	1.1
BW40-020	2081955.636	749524.249	Fluoranthene	4100.000	24.000	27200000	NA	µg/kg	0.5	1.1

Location	Actual Easting	Actual Northing	Analyte	Result	Reporting Limit	WRW AL	Background Mean Plus 2 Standard Deviations	Unit	Start Depth (ft)	End Depth (ft)
BW40-020	2081955.636	749524.249	Fluorene	820.000	37.000	40800000	NA	µg/kg	0.5	1.1
BW40-020	2081955.636	749524.249	Indeno(1,2,3-cd)pyrene	690.000	24.000	34900	NA	µg/kg	0.5	1.1
BW40-020	2081955.636	749524.249	Naphthalene	1600.000	35.000	3090000	NA	µg/kg	0.5	1.1
BW40-020	2081955.636	749524.249	Pyrene	3700.000	140.000	22100000	NA	µg/kg	0.5	1.1
BW40-020	2081955.636	749524.249	Uranium-235	0.170	NA	8	0.120	pCi/g	0.5	1.1
BW40-021	2081964.233	749508.945	Acenaphthene	150.000	32.000	40800000	NA	µg/kg	0.0	0.5
BW40-021	2081964.233	749508.945	Anthracene	260.000	24.000	204000000	NA	µg/kg	0.0	0.5
BW40-021	2081964.233	749508.945	Benzo(a)anthracene	320.000	25.000	34900	NA	µg/kg	0.0	0.5
BW40-021	2081964.233	749508.945	Benzo(a)pyrene	260.000	41.000	3490	NA	µg/kg	0.0	0.5
BW40-021	2081964.233	749508.945	Benzo(b)fluoranthene	420.000	29.000	34900	NA	µg/kg	0.0	0.5
BW40-021	2081964.233	749508.945	Chrysene	320.000	28.000	3490000	NA	µg/kg	0.0	0.5
BW40-021	2081964.233	749508.945	Dibenz(a,h)anthracene	71.000	25.000	3490	NA	µg/kg	0.0	0.5
BW40-021	2081964.233	749508.945	Fluoranthene	900.000	23.000	27200000	NA	µg/kg	0.0	0.5
BW40-021	2081964.233	749508.945	Fluorene	140.000	35.000	40800000	NA	µg/kg	0.0	0.5
BW40-021	2081964.233	749508.945	Indeno(1,2,3-cd)pyrene	180.000	23.000	34900	NA	µg/kg	0.0	0.5
BW40-021	2081964.233	749508.945	Naphthalene	47.000	33.000	3090000	NA	µg/kg	0.0	0.5
BW40-021	2081964.233	749508.945	Pyrene	700.000	140.000	22100000	NA	µg/kg	0.0	0.5
BW40-021	*2081964.233*	*749508.945*	*Uranium-234*	*2.990*	NA	*300*	*2.253*	*pCi/g*	*0.0*	*0.5*
BW40-021	2081964.233	749508.945	Uranium-235	0.201	NA	8	0.094	pCi/g	0.0	0.5
BW40-021	2081964.233	749508.945	Uranium-238	2.990	NA	351	2.000	pCi/g	0.0	0.5
BW40-021	2081964.233	749508.945	2-Methylnaphthalene	37.000	34.000	20400000	NA	µg/kg	0.5	2.5
BW40-021	2081964.233	749508.945	Acenaphthene	350.000	32.000	40800000	NA	µg/kg	0.5	2.5
BW40-021	2081964.233	749508.945	Anthracene	640.000	25.000	204000000	NA	µg/kg	0.5	2.5
BW40-021	2081964.233	749508.945	Benzo(a)anthracene	1300.000	26.000	34900	NA	µg/kg	0.5	2.5
BW40-021	2081964.233	749508.945	Benzo(a)pyrene	1300.000	42.000	3490	NA	µg/kg	0.5	2.5
BW40-021	2081964.233	749508.945	Benzo(b)fluoranthene	1800.000	30.000	34900	NA	µg/kg	0.5	2.5
BW40-021	2081964.233	749508.945	Chrysene	1300.000	29.000	3490000	NA	µg/kg	0.5	2.5
BW40-021	2081964.233	749508.945	Dibenz(a,h)anthracene	200.000	26.000	3490	NA	µg/kg	0.5	2.5
BW40-021	2081964.233	749508.945	Dibenzofuran	98.000	38.000	2950000	NA	µg/kg	0.5	2.5
BW40-021	2081964.233	749508.945	Fluoranthene	3700.000	24.000	27200000	NA	µg/kg	0.5	2.5
BW40-021	2081964.233	749508.945	Fluorene	290.000	36.000	40800000	NA	µg/kg	0.5	2.5

Location	Actual Easting	Actual Northing	Analyte	Result	Reporting Limit	WRW AL	Background Mean Plus 2 Standard Deviations	Unit	Start Depth (ft)	End Depth (ft)
BW40-021	2081964.233	749508.945	Indeno(1,2,3-cd)pyrene	710.000	24.000	34900	NA	µg/kg	0.5	2.5
BW40-021	2081964.233	749508.945	Naphthalene	59.000	34.000	3090000	NA	µg/kg	0.5	2.5
BW40-021	2081964.233	749508.945	Pyrene	2800.000	140.000	22100000	NA	µg/kg	0.5	2.5
BW40-021	*2081964.233*	*749508.945*	*Uranium-234*	*3.866*	NA	*300*	*2.640*	*pCi/g*	*0.5*	*2.5*
BW40-021	2081964.233	749508.945	Uranium-235	0.236	NA	8	0.120	pCi/g	0.5	2.5
BW40-021	2081964.233	749508.945	Uranium-238	3.866	NA	351	1.490	pCi/g	0.5	2.5
BW40-022	2081955.306	749504.948	Acenaphthene	140.000	34.000	40800000	NA	µg/kg	0.0	0.5
BW40-022	2081955.306	749504.948	Anthracene	220.000	26.000	204000000	NA	µg/kg	0.0	0.5
BW40-022	2081955.306	749504.948	Benzo(a)anthracene	410.000	27.000	34900	NA	µg/kg	0.0	0.5
BW40-022	2081955.306	749504.948	Benzo(a)pyrene	440.000	44.000	3490	NA	µg/kg	0.0	0.5
BW40-022	2081955.306	749504.948	Benzo(b)fluoranthene	300.000	32.000	34900	NA	µg/kg	0.0	0.5
BW40-022	2081955.306	749504.948	Benzo(k)fluoranthene	370.000	35.000	349000	NA	µg/kg	0.0	0.5
BW40-022	2081955.306	749504.948	Beryllium	1.200	NA	921	0.966	mg/kg	0.0	0.5
BW40-022	2081955.306	749504.948	Chrysene	440.000	31.000	3490000	NA	µg/kg	0.0	0.5
BW40-022	2081955.306	749504.948	Copper	36.000	NA	40900	18.060	mg/kg	0.0	0.5
BW40-022	2081955.306	749504.948	Dibenzofuran	56.000	40.000	2950000	NA	µg/kg	0.0	0.5
BW40-022	2081955.306	749504.948	Fluoranthene	1000.000	25.000	27200000	NA	µg/kg	0.0	0.5
BW40-022	2081955.306	749504.948	Fluorene	120.000	37.000	40800000	NA	µg/kg	0.0	0.5
BW40-022	2081955.306	749504.948	Indeno(1,2,3-cd)pyrene	250.000	25.000	34900	NA	µg/kg	0.0	0.5
BW40-022	2081955.306	749504.948	Naphthalene	55.000	35.000	3090000	NA	µg/kg	0.0	0.5
BW40-022	2081955.306	749504.948	Nickel	16.000	NA	20400	14.910	mg/kg	0.0	0.5
BW40-022	2081955.306	749504.948	Pyrene	1100.000	150.000	22100000	NA	µg/kg	0.0	0.5
BW40-022	2081955.306	749504.948	Strontium	65.000	NA	613000	48.940	mg/kg	0.0	0.5
BW40-022	*2081955.306*	*749504.948*	*Uranium-234*	*2.564*	NA	*300*	*2.253*	*pCi/g*	*0.0*	*0.5*
BW40-022	2081955.306	749504.948	Uranium-235	0.213	NA	8	0.094	pCi/g	0.0	0.5
BW40-022	2081955.306	749504.948	Uranium-238	2.564	NA	351	2.000	pCi/g	0.0	0.5
BW40-022	2081955.306	749504.948	Xylene	17.700	10.600	2040000	NA	µg/kg	0.0	0.5
BW40-022	2081955.306	749504.948	2-Methylnaphthalene	61.000	34.000	20400000	NA	µg/kg	0.5	1.1
BW40-022	2081955.306	749504.948	Acenaphthene	290.000	33.000	40800000	NA	µg/kg	0.5	1.1
BW40-022	2081955.306	749504.948	Anthracene	420.000	25.000	204000000	NA	µg/kg	0.5	1.1
BW40-022	2081955.306	749504.948	Benzo(a)anthracene	760.000	26.000	34900	NA	µg/kg	0.5	1.1

Location	Actual Easting	Actual Northing	Analyte	Result	Reporting Limit	WRW AL	Background Mean Plus 2 Standard Deviations	Unit	Start Depth (ft)	End Depth (ft)
BW40-022	2081955.306	749504.948	Benzo(a)pyrene	780.000	43.000	3490	NA	µg/kg	0.5	1.1
BW40-022	2081955.306	749504.948	Benzo(b)fluoranthene	570.000	31.000	34900	NA	µg/kg	0.5	1.1
BW40-022	2081955.306	749504.948	Benzo(k)fluoranthene	660.000	34.000	349000	NA	µg/kg	0.5	1.1
BW40-022	2081955.306	749504.948	Chrysene	800.000	30.000	3490000	NA	µg/kg	0.5	1.1
BW40-022	2081955.306	749504.948	Dibenzofuran	110.000	38.000	2950000	NA	µg/kg	0.5	1.1
BW40-022	2081955.306	749504.948	Fluoranthene	2000.000	24.000	27200000	NA	µg/kg	0.5	1.1
BW40-022	2081955.306	749504.948	Fluorene	230.000	36.000	40800000	NA	µg/kg	0.5	1.1
BW40-022	2081955.306	749504.948	Indeno(1,2,3-cd)pyrene	450.000	24.000	34900	NA	µg/kg	0.5	1.1
BW40-022	2081955.306	749504.948	Naphthalene	160.000	34.000	3090000	NA	µg/kg	0.5	1.1
BW40-022	2081955.306	749504.948	Pyrene	2000.000	140.000	22100000	NA	µg/kg	0.5	1.1
BW40-022	2081955.306	749504.948	Uranium-235	0.155	NA	8	0.120	pCi/g	0.5	1.1
BW40-022	2081955.306	749504.948	Uranium-238	1.795	NA	351	1.490	pCi/g	0.5	1.1
BW40-023	2081955.333	749493.932	2-Methylnaphthalene	73.000	34.000	20400000	NA	µg/kg	0.0	0.5
BW40-023	2081955.333	749493.932	Acenaphthene	310.000	33.000	40800000	NA	µg/kg	0.0	0.5
BW40-023	2081955.333	749493.932	Anthracene	430.000	25.000	204000000	NA	µg/kg	0.0	0.5
BW40-023	2081955.333	749493.932	Antimony	0.650	NA	409	0.470	mg/kg	0.0	0.5
BW40-023	2081955.333	749493.932	Benzo(a)anthracene	700.000	26.000	34900	NA	µg/kg	0.0	0.5
BW40-023	2081955.333	749493.932	Benzo(a)pyrene	660.000	42.000	3490	NA	µg/kg	0.0	0.5
BW40-023	2081955.333	749493.932	Benzo(b)fluoranthene	540.000	30.000	34900	NA	µg/kg	0.0	0.5
BW40-023	2081955.333	749493.932	Benzo(k)fluoranthene	550.000	34.000	349000	NA	µg/kg	0.0	0.5
BW40-023	2081955.333	749493.932	Chromium	68.000	NA	268	16.990	mg/kg	0.0	0.5
BW40-023	2081955.333	749493.932	Chrysene	740.000	29.000	3490000	NA	µg/kg	0.0	0.5
BW40-023	2081955.333	749493.932	Cobalt	22.000	NA	1550	10.910	mg/kg	0.0	0.5
BW40-023	2081955.333	749493.932	Copper	75.000	NA	40900	18.060	mg/kg	0.0	0.5
BW40-023	2081955.333	749493.932	Dibenz(a,h)anthracene	120.000	26.000	3490	NA	µg/kg	0.0	0.5
BW40-023	2081955.333	749493.932	Dibenzofuran	120.000	38.000	2950000	NA	µg/kg	0.0	0.5
BW40-023	2081955.333	749493.932	Fluoranthene	2100.000	24.000	27200000	NA	µg/kg	0.0	0.5
BW40-023	2081955.333	749493.932	Fluorene	250.000	36.000	40800000	NA	µg/kg	0.0	0.5
BW40-023	2081955.333	749493.932	Indeno(1,2,3-cd)pyrene	370.000	24.000	34900	NA	µg/kg	0.0	0.5
BW40-023	2081955.333	749493.932	Naphthalene	190.000	34.000	3090000	NA	µg/kg	0.0	0.5
BW40-023	2081955.333	749493.932	Nickel	38.000	NA	20400	14.910	mg/kg	0.0	0.5

Location	Actual Easting	Actual Northing	Analyte	Result	Reporting Limit	WRW AL	Background Mean Plus 2 Standard Deviations	Unit	Start Depth (ft)	End Depth (ft)
BW40-023	2081955.333	749493.932	Pyrene	1600.000	140.000	22100000	NA	µg/kg	0.0	0.5
BW40-023	2081955.333	749493.932	Strontium	78.000	NA	613000	48.940	mg/kg	0.0	0.5
BW40-023	*2081955.333*	*749493.932*	*Uranium-234*	*3.703*	NA	*300*	*2.253*	*pCi/g*	*0.0*	*0.5*
BW40-023	2081955.333	749493.932	Uranium-235	0.157	NA	8	0.094	pCi/g	0.0	0.5
BW40-023	2081955.333	749493.932	Uranium-238	3.703	NA	351	2.000	pCi/g	0.0	0.5
BW40-023	2081955.333	749493.932	2-Methylnaphthalene	43.000	34.000	20400000	NA	µg/kg	0.5	1.2
BW40-023	2081955.333	749493.932	Acenaphthene	240.000	33.000	40800000	NA	µg/kg	0.5	1.2
BW40-023	2081955.333	749493.932	Anthracene	420.000	25.000	204000000	NA	µg/kg	0.5	1.2
BW40-023	2081955.333	749493.932	Benzo(a)anthracene	710.000	26.000	34900	NA	µg/kg	0.5	1.2
BW40-023	2081955.333	749493.932	Benzo(a)pyrene	680.000	43.000	3490	NA	µg/kg	0.5	1.2
BW40-023	2081955.333	749493.932	Benzo(b)fluoranthene	510.000	31.000	34900	NA	µg/kg	0.5	1.2
BW40-023	2081955.333	749493.932	Benzo(k)fluoranthene	600.000	34.000	349000	NA	µg/kg	0.5	1.2
BW40-023	2081955.333	749493.932	Chrysene	760.000	30.000	3490000	NA	µg/kg	0.5	1.2
BW40-023	2081955.333	749493.932	Dibenz(a,h)anthracene	160.000	26.000	3490	NA	µg/kg	0.5	1.2
BW40-023	2081955.333	749493.932	Dibenzofuran	96.000	38.000	2950000	NA	µg/kg	0.5	1.2
BW40-023	2081955.333	749493.932	Fluoranthene	2000.000	24.000	27200000	NA	µg/kg	0.5	1.2
BW40-023	2081955.333	749493.932	Fluorene	220.000	36.000	40800000	NA	µg/kg	0.5	1.2
BW40-023	2081955.333	749493.932	Indeno(1,2,3-cd)pyrene	380.000	24.000	34900	NA	µg/kg	0.5	1.2
BW40-023	2081955.333	749493.932	Naphthalene	83.000	34.000	3090000	NA	µg/kg	0.5	1.2
BW40-023	2081955.333	749493.932	Pyrene	1600.000	140.000	22100000	NA	µg/kg	0.5	1.2
BW40-023	2081955.333	749493.932	Uranium-238	2.031	NA	351	1.490	pCi/g	0.5	1.2
BW40-024	2081941.813	749488.110	2-Methylnaphthalene	660.000	36.000	20400000	NA	µg/kg	0.0	0.3
BW40-024	2081941.813	749488.110	Acenaphthene	2600.000	35.000	40800000	NA	µg/kg	0.0	0.3
BW40-024	2081941.813	749488.110	Anthracene	4000.000	26.000	204000000	NA	µg/kg	0.0	0.3
BW40-024	2081941.813	749488.110	Benzo(a)anthracene	9000.000	280.000	34900	NA	µg/kg	0.0	0.3
BW40-024	**2081941.813**	**749488.110**	**Benzo(a)pyrene**	**9500.000**	**450.000**	**3490**	**NA**	**µg/kg**	**0.0**	**0.3**
BW40-024	2081941.813	749488.110	Benzo(b)fluoranthene	15000.000	320.000	34900	NA	µg/kg	0.0	0.3
BW40-024	2081941.813	749488.110	Benzo(k)fluoranthene	4600.000	36.000	349000	NA	µg/kg	0.0	0.3
BW40-024	2081941.813	749488.110	Chromium	22.000	NA	268	16.990	mg/kg	0.0	0.3
BW40-024	2081941.813	749488.110	Chrysene	9700.000	310.000	3490000	NA	µg/kg	0.0	0.3
BW40-024	2081941.813	749488.110	Dibenz(a,h)anthracene	1800.000	28.000	3490	NA	µg/kg	0.0	0.3

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BW40-024	2081941.813	749488.110	Dibenzofuran	1100.000	40.000	2950000	NA	µg/kg	0.0	0.3
BW40-024	2081941.813	749488.110	Fluoranthene	19000.000	250.000	27200000	NA	µg/kg	0.0	0.3
BW40-024	2081941.813	749488.110	Fluorene	2100.000	38.000	40800000	NA	µg/kg	0.0	0.3
BW40-024	2081941.813	749488.110	Indeno(1,2,3-cd)pyrene	5800.000	25.000	34900	NA	µg/kg	0.0	0.3
BW40-024	2081941.813	749488.110	Naphthalene	2100.000	36.000	3090000	NA	µg/kg	0.0	0.3
BW40-024	2081941.813	749488.110	Pyrene	19000.000	1500.000	22100000	NA	µg/kg	0.0	0.3
BW40-024	*2081941.813*	*749488.110*	*Uranium-234*	*5.501*	NA	*300*	*2.253*	*pCi/g*	*0.0*	*0.3*
BW40-024	2081941.813	749488.110	Uranium-235	0.200	NA	8	0.094	pCi/g	0.0	0.3
BW40-024	2081941.813	749488.110	Uranium-238	5.501	NA	351	2.000	pCi/g	0.0	0.3
BW40-024	2081941.813	749488.110	Zinc	130.000	NA	307000	73.760	mg/kg	0.0	0.3
BW40-025	2081944.712	749466.082	2-Methylnaphthalene	460.000	33.000	20400000	NA	µg/kg	0.0	0.5
BW40-025	2081944.712	749466.082	Acenaphthene	2000.000	32.000	40800000	NA	µg/kg	0.0	0.5
BW40-025	2081944.712	749466.082	Americium-241	0.188	NA	76	0.023	pCi/g	0.0	0.5
BW40-025	2081944.712	749466.082	Anthracene	1900.000	24.000	204000000	NA	µg/kg	0.0	0.5
BW40-025	2081944.712	749466.082	Benzo(a)anthracene	3600.000	25.000	34900	NA	µg/kg	0.0	0.5
BW40-025	**2081944.712**	**749466.082**	**Benzo(a)pyrene**	**3900.000**	**41.000**	**3490**	**NA**	**µg/kg**	**0.0**	**0.5**
BW40-025	2081944.712	749466.082	Benzo(b)fluoranthene	4000.000	30.000	34900	NA	µg/kg	0.0	0.5
BW40-025	2081944.712	749466.082	Benzo(k)fluoranthene	2200.000	33.000	349000	NA	µg/kg	0.0	0.5
BW40-025	2081944.712	749466.082	Chrysene	3700.000	29.000	3490000	NA	µg/kg	0.0	0.5
BW40-025	2081944.712	749466.082	Dibenz(a,h)anthracene	720.000	25.000	3490	NA	µg/kg	0.0	0.5
BW40-025	2081944.712	749466.082	Dibenzofuran	720.000	37.000	2950000	NA	µg/kg	0.0	0.5
BW40-025	2081944.712	749466.082	Fluoranthene	10000.000	93.000	27200000	NA	µg/kg	0.0	0.5
BW40-025	2081944.712	749466.082	Fluorene	1500.000	35.000	40800000	NA	µg/kg	0.0	0.5
BW40-025	2081944.712	749466.082	Indeno(1,2,3-cd)pyrene	2200.000	23.000	34900	NA	µg/kg	0.0	0.5
BW40-025	2081944.712	749466.082	Naphthalene	1200.000	33.000	3090000	NA	µg/kg	0.0	0.5
BW40-025	2081944.712	749466.082	Plutonium-239/240	0.237	NA	50	0.066	pCi/g	0.0	0.5
BW40-025	2081944.712	749466.082	Pyrene	8400.000	550.000	22100000	NA	µg/kg	0.0	0.5
BW40-025	2081944.712	749466.082	Acenaphthene	100.000	34.000	40800000	NA	µg/kg	0.5	2.5
BW40-025	2081944.712	749466.082	Acetone	11.000	5.200	102000000	NA	µg/kg	0.5	2.5
BW40-025	2081944.712	749466.082	Anthracene	150.000	26.000	204000000	NA	µg/kg	0.5	2.5
BW40-025	2081944.712	749466.082	Benzo(a)anthracene	240.000	27.000	34900	NA	µg/kg	0.5	2.5

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BW40-025	2081944.712	749466.082	Benzo(a)pyrene	250.000	44.000	3490	NA	µg/kg	0.5	2.5
BW40-025	2081944.712	749466.082	Benzo(b)fluoranthene	360.000	31.000	34900	NA	µg/kg	0.5	2.5
BW40-025	2081944.712	749466.082	Chrysene	260.000	30.000	3490000	NA	µg/kg	0.5	2.5
BW40-025	2081944.712	749466.082	Dibenz(a,h)anthracene	51.000	27.000	3490	NA	µg/kg	0.5	2.5
BW40-025	2081944.712	749466.082	Fluoranthene	570.000	25.000	27200000	NA	µg/kg	0.5	2.5
BW40-025	2081944.712	749466.082	Fluorene	97.000	37.000	40800000	NA	µg/kg	0.5	2.5
BW40-025	2081944.712	749466.082	Indeno(1,2,3-cd)pyrene	150.000	25.000	34900	NA	µg/kg	0.5	2.5
BW40-025	2081944.712	749466.082	Pyrene	530.000	150.000	22100000	NA	µg/kg	0.5	2.5
BW40-026	2081944.542	749452.834	2-Methylnaphthalene	89.000	33.000	20400000	NA	µg/kg	0.0	0.5
BW40-026	2081944.542	749452.834	Acenaphthene	360.000	32.000	40800000	NA	µg/kg	0.0	0.5
BW40-026	2081944.542	749452.834	Anthracene	400.000	24.000	204000000	NA	µg/kg	0.0	0.5
BW40-026	2081944.542	749452.834	Benzo(a)anthracene	690.000	25.000	34900	NA	µg/kg	0.0	0.5
BW40-026	2081944.542	749452.834	Benzo(a)pyrene	630.000	41.000	3490	NA	µg/kg	0.0	0.5
BW40-026	2081944.542	749452.834	Benzo(b)fluoranthene	700.000	30.000	34900	NA	µg/kg	0.0	0.5
BW40-026	2081944.542	749452.834	Benzo(k)fluoranthene	350.000	33.000	349000	NA	µg/kg	0.0	0.5
BW40-026	2081944.542	749452.834	Chrysene	680.000	29.000	3490000	NA	µg/kg	0.0	0.5
BW40-026	2081944.542	749452.834	Copper	23.000	NA	40900	18.060	mg/kg	0.0	0.5
BW40-026	2081944.542	749452.834	Dibenz(a,h)anthracene	130.000	25.000	3490	NA	µg/kg	0.0	0.5
BW40-026	2081944.542	749452.834	Dibenzofuran	160.000	37.000	2950000	NA	µg/kg	0.0	0.5
BW40-026	2081944.542	749452.834	Fluoranthene	1900.000	23.000	27200000	NA	µg/kg	0.0	0.5
BW40-026	2081944.542	749452.834	Fluorene	290.000	35.000	40800000	NA	µg/kg	0.0	0.5
BW40-026	2081944.542	749452.834	Indeno(1,2,3-cd)pyrene	390.000	23.000	34900	NA	µg/kg	0.0	0.5
BW40-026	2081944.542	749452.834	Manganese	370.000	NA	3480	365.080	mg/kg	0.0	0.5
BW40-026	2081944.542	749452.834	Naphthalene	240.000	33.000	3090000	NA	µg/kg	0.0	0.5
BW40-026	2081944.542	749452.834	Pyrene	1400.000	140.000	22100000	NA	µg/kg	0.0	0.5
BW40-026	2081944.542	749452.834	Toluene	9.250	5.200	31300000	NA	µg/kg	0.0	0.5
BW40-026	*2081944.542*	*749452.834*	*Uranium-234*	*4.534*	NA	*300*	*2.253*	*pCi/g*	*0.0*	*0.5*
BW40-026	2081944.542	749452.834	Uranium-235	0.212	NA	8	0.094	pCi/g	0.0	0.5
BW40-026	2081944.542	749452.834	Uranium-238	4.534	NA	351	2.000	pCi/g	0.0	0.5
BW40-026	2081944.542	749452.834	2-Methylnaphthalene	90.000	35.000	20400000	NA	µg/kg	0.5	2.5
BW40-026	2081944.542	749452.834	Acenaphthene	360.000	34.000	40800000	NA	µg/kg	0.5	2.5

Location	Actual Easting	Actual Northing	Analyte	Result	Reporting Limit	WRW AL	Background Mean Plus 2 Standard Deviations	Unit	Start Depth (ft)	End Depth (ft)
BW40-026	2081944.542	749452.834	Anthracene	430.000	26.000	204000000	NA	µg/kg	0.5	2.5
BW40-026	2081944.542	749452.834	Benzo(a)anthracene	870.000	27.000	34900	NA	µg/kg	0.5	2.5
BW40-026	2081944.542	749452.834	Benzo(a)pyrene	870.000	44.000	3490	NA	µg/kg	0.5	2.5
BW40-026	2081944.542	749452.834	Benzo(b)fluoranthene	1400.000	32.000	34900	NA	µg/kg	0.5	2.5
BW40-026	2081944.542	749452.834	Chrysene	840.000	31.000	3490000	NA	µg/kg	0.5	2.5
BW40-026	2081944.542	749452.834	Dibenz(a,h)anthracene	160.000	27.000	3490	NA	µg/kg	0.5	2.5
BW40-026	2081944.542	749452.834	Dibenzofuran	150.000	40.000	2950000	NA	µg/kg	0.5	2.5
BW40-026	2081944.542	749452.834	Fluoranthene	2700.000	25.000	27200000	NA	µg/kg	0.5	2.5
BW40-026	2081944.542	749452.834	Fluorene	290.000	38.000	40800000	NA	µg/kg	0.5	2.5
BW40-026	2081944.542	749452.834	Indeno(1,2,3-cd)pyrene	510.000	25.000	34900	NA	µg/kg	0.5	2.5
BW40-026	2081944.542	749452.834	Naphthalene	220.000	35.000	3090000	NA	µg/kg	0.5	2.5
BW40-026	2081944.542	749452.834	Pyrene	1900.000	150.000	22100000	NA	µg/kg	0.5	2.5
BW40-026	*2081944.542*	*749452.834*	*Uranium-234*	*3.391*	NA	*300*	*2.640*	*pCi/g*	*0.5*	*2.5*
BW40-026	2081944.542	749452.834	Uranium-238	3.391	NA	351	1.490	pCi/g	0.5	2.5
BW40-027	2081961.532	749437.171	2-Methylnaphthalene	160.000	33.000	20400000	NA	µg/kg	0.0	0.5
BW40-027	2081961.532	749437.171	Acenaphthene	710.000	32.000	40800000	NA	µg/kg	0.0	0.5
BW40-027	2081961.532	749437.171	Americium-241	0.852	NA	76	0.023	pCi/g	0.0	0.5
BW40-027	2081961.532	749437.171	Anthracene	730.000	24.000	204000000	NA	µg/kg	0.0	0.5
BW40-027	2081961.532	749437.171	Benzo(a)anthracene	1600.000	25.000	34900	NA	µg/kg	0.0	0.5
BW40-027	2081961.532	749437.171	Benzo(a)pyrene	1700.000	41.000	3490	NA	µg/kg	0.0	0.5
BW40-027	2081961.532	749437.171	Benzo(b)fluoranthene	2700.000	30.000	34900	NA	µg/kg	0.0	0.5
BW40-027	2081961.532	749437.171	bis(2-Ethylhexyl)phthalate	260.000	74.000	1970000	NA	µg/kg	0.0	0.5
BW40-027	2081961.532	749437.171	Chrysene	1600.000	29.000	3490000	NA	µg/kg	0.0	0.5
BW40-027	2081961.532	749437.171	Dibenz(a,h)anthracene	320.000	25.000	3490	NA	µg/kg	0.0	0.5
BW40-027	2081961.532	749437.171	Dibenzofuran	250.000	37.000	2950000	NA	µg/kg	0.0	0.5
BW40-027	2081961.532	749437.171	Fluoranthene	4700.000	23.000	27200000	NA	µg/kg	0.0	0.5
BW40-027	2081961.532	749437.171	Fluorene	520.000	35.000	40800000	NA	µg/kg	0.0	0.5
BW40-027	2081961.532	749437.171	Indeno(1,2,3-cd)pyrene	950.000	23.000	34900	NA	µg/kg	0.0	0.5
BW40-027	2081961.532	749437.171	Naphthalene	400.000	33.000	3090000	NA	µg/kg	0.0	0.5
BW40-027	*2081961.532*	*749437.171*	*Plutonium-239/240*	*4.856*	NA	*50*	*0.066*	*pCi/g*	*0.0*	*0.5*
BW40-027	2081961.532	749437.171	Pyrene	3400.000	140.000	22100000	NA	µg/kg	0.0	0.5

Location	Actual Easting	Actual Northing	Analyte	Result	Reporting Limit	WRW AL	Background Mean Plus 2 Standard Deviations	Unit	Start Depth (ft)	End Depth (ft)
BW40-027	*2081961.532*	*749437.171*	*Uranium-234*	*4.158*	NA	*300*	*2.253*	*pCi/g*	*0.0*	*0.5*
BW40-027	2081961.532	749437.171	Uranium-235	0.207	NA	8	0.094	pCi/g	0.0	0.5
BW40-027	2081961.532	749437.171	Uranium-238	4.158	NA	351	2.000	pCi/g	0.0	0.5
BW40-027	2081961.532	749437.171	2-Methylnaphthalene	120.000	32.000	20400000	NA	µg/kg	0.5	2.5
BW40-027	2081961.532	749437.171	Acenaphthene	560.000	31.000	40800000	NA	µg/kg	0.5	2.5
BW40-027	2081961.532	749437.171	Anthracene	540.000	24.000	204000000	NA	µg/kg	0.5	2.5
BW40-027	2081961.532	749437.171	Benzo(a)anthracene	1200.000	25.000	34900	NA	µg/kg	0.5	2.5
BW40-027	2081961.532	749437.171	Benzo(a)pyrene	1300.000	41.000	3490	NA	µg/kg	0.5	2.5
BW40-027	2081961.532	749437.171	Benzo(b)fluoranthene	1500.000	29.000	34900	NA	µg/kg	0.5	2.5
BW40-027	2081961.532	749437.171	Benzo(k)fluoranthene	620.000	32.000	349000	NA	µg/kg	0.5	2.5
BW40-027	2081961.532	749437.171	Chrysene	1200.000	28.000	3490000	NA	µg/kg	0.5	2.5
BW40-027	2081961.532	749437.171	Dibenz(a,h)anthracene	240.000	25.000	3490	NA	µg/kg	0.5	2.5
BW40-027	2081961.532	749437.171	Dibenzofuran	200.000	37.000	2950000	NA	µg/kg	0.5	2.5
BW40-027	2081961.532	749437.171	Fluoranthene	2900.000	23.000	27200000	NA	µg/kg	0.5	2.5
BW40-027	2081961.532	749437.171	Fluorene	410.000	34.000	40800000	NA	µg/kg	0.5	2.5
BW40-027	2081961.532	749437.171	Indeno(1,2,3-cd)pyrene	730.000	23.000	34900	NA	µg/kg	0.5	2.5
BW40-027	2081961.532	749437.171	Naphthalene	310.000	32.000	3090000	NA	µg/kg	0.5	2.5
BW40-027	2081961.532	749437.171	Pyrene	2700.000	140.000	22100000	NA	µg/kg	0.5	2.5
BW40-027	2081961.532	749437.171	Uranium-235	0.205	NA	8	0.120	pCi/g	0.5	2.5
BW40-027	2081961.532	749437.171	Uranium-238	1.504	NA	351	1.490	pCi/g	0.5	2.5
BW40-028	2081956.718	749453.539	2-Methylnaphthalene	230.000	32.000	20400000	NA	µg/kg	0.0	0.5
BW40-028	2081956.718	749453.539	Acenaphthene	1200.000	31.000	40800000	NA	µg/kg	0.0	0.5
BW40-028	2081956.718	749453.539	Anthracene	1100.000	24.000	204000000	NA	µg/kg	0.0	0.5
BW40-028	2081956.718	749453.539	Benzo(a)anthracene	2500.000	25.000	34900	NA	µg/kg	0.0	0.5
BW40-028	2081956.718	749453.539	Benzo(a)pyrene	2800.000	41.000	3490	NA	µg/kg	0.0	0.5
BW40-028	2081956.718	749453.539	Benzo(b)fluoranthene	3300.000	29.000	34900	NA	µg/kg	0.0	0.5
BW40-028	2081956.718	749453.539	Benzo(k)fluoranthene	1500.000	32.000	349000	NA	µg/kg	0.0	0.5
BW40-028	2081956.718	749453.539	Chrysene	2500.000	28.000	3490000	NA	µg/kg	0.0	0.5
BW40-028	2081956.718	749453.539	Dibenz(a,h)anthracene	480.000	25.000	3490	NA	µg/kg	0.0	0.5
BW40-028	2081956.718	749453.539	Dibenzofuran	390.000	36.000	2950000	NA	µg/kg	0.0	0.5
BW40-028	2081956.718	749453.539	Fluoranthene	6700.000	46.000	27200000	NA	µg/kg	0.0	0.5

Location	Actual Easting	Actual Northing	Analyte	Result	Reporting Limit	WRW AL	Background Mean Plus 2 Standard Deviations	Unit	Start Depth (ft)	End Depth (ft)
BW40-028	2081956.718	749453.539	Fluorene	850.000	34.000	40800000	NA	µg/kg	0.0	0.5
BW40-028	2081956.718	749453.539	Indeno(1,2,3-cd)pyrene	1500.000	23.000	34900	NA	µg/kg	0.0	0.5
BW40-028	2081956.718	749453.539	Naphthalene	530.000	32.000	3090000	NA	µg/kg	0.0	0.5
BW40-028	2081956.718	749453.539	Pyrene	5200.000	140.000	22100000	NA	µg/kg	0.0	0.5
BW40-028	*2081956.718*	*749453.539*	*Uranium-234*	*2.704*	NA	*300*	*2.253*	*pCi/g*	*0.0*	*0.5*
BW40-028	2081956.718	749453.539	Uranium-235	0.315	NA	8	0.094	pCi/g	0.0	0.5
BW40-028	2081956.718	749453.539	Uranium-238	2.704	NA	351	2.000	pCi/g	0.0	0.5
BW40-028	2081956.718	749453.539	Acenaphthene	42.000	32.000	40800000	NA	µg/kg	0.5	2.5
BW40-028	2081956.718	749453.539	Anthracene	62.000	24.000	204000000	NA	µg/kg	0.5	2.5
BW40-028	2081956.718	749453.539	Benzo(a)anthracene	140.000	25.000	34900	NA	µg/kg	0.5	2.5
BW40-028	2081956.718	749453.539	Benzo(a)pyrene	160.000	41.000	3490	NA	µg/kg	0.5	2.5
BW40-028	2081956.718	749453.539	Benzo(b)fluoranthene	150.000	30.000	34900	NA	µg/kg	0.5	2.5
BW40-028	2081956.718	749453.539	Benzo(k)fluoranthene	82.000	33.000	349000	NA	µg/kg	0.5	2.5
BW40-028	2081956.718	749453.539	Chrysene	150.000	29.000	3490000	NA	µg/kg	0.5	2.5
BW40-028	2081956.718	749453.539	Fluoranthene	280.000	23.000	27200000	NA	µg/kg	0.5	2.5
BW40-028	2081956.718	749453.539	Indeno(1,2,3-cd)pyrene	95.000	23.000	34900	NA	µg/kg	0.5	2.5
BW40-028	2081956.718	749453.539	Pyrene	280.000	140.000	22100000	NA	µg/kg	0.5	2.5
BW40-028	*2081956.718*	*749453.539*	*Uranium-234*	*5.612*	NA	*300*	*2.640*	*pCi/g*	*0.5*	*2.5*
BW40-028	2081956.718	749453.539	Uranium-238	5.612	NA	351	1.490	pCi/g	0.5	2.5
BW40-029	2082027.053	749489.481	Acenaphthene	140.000	32.000	40800000	NA	µg/kg	0.0	0.5
BW40-029	2082027.053	749489.481	Anthracene	220.000	24.000	204000000	NA	µg/kg	0.0	0.5
BW40-029	2082027.053	749489.481	Benzo(a)anthracene	750.000	25.000	34900	NA	µg/kg	0.0	0.5
BW40-029	2082027.053	749489.481	Benzo(a)pyrene	750.000	41.000	3490	NA	µg/kg	0.0	0.5
BW40-029	2082027.053	749489.481	Benzo(b)fluoranthene	530.000	30.000	34900	NA	µg/kg	0.0	0.5
BW40-029	2082027.053	749489.481	Benzo(k)fluoranthene	710.000	33.000	349000	NA	µg/kg	0.0	0.5
BW40-029	2082027.053	749489.481	Chrysene	840.000	29.000	3490000	NA	µg/kg	0.0	0.5
BW40-029	2082027.053	749489.481	Dibenz(a,h)anthracene	200.000	25.000	3490	NA	µg/kg	0.0	0.5
BW40-029	2082027.053	749489.481	Fluoranthene	1700.000	23.000	27200000	NA	µg/kg	0.0	0.5
BW40-029	2082027.053	749489.481	Fluorene	91.000	35.000	40800000	NA	µg/kg	0.0	0.5
BW40-029	2082027.053	749489.481	Indeno(1,2,3-cd)pyrene	430.000	23.000	34900	NA	µg/kg	0.0	0.5
BW40-029	2082027.053	749489.481	Pyrene	1800.000	140.000	22100000	NA	µg/kg	0.0	0.5

Location	Actual Easting	Actual Northing	Analyte	Result	Reporting Limit	WRW AL	Background Mean Plus 2 Standard Deviations	Unit	Start Depth (ft)	End Depth (ft)
BW40-029	*2082027.053*	*749489.481*	*Uranium-234*	*3.747*	NA	*300*	*2.253*	*pCi/g*	*0.0*	*0.5*
BW40-029	2082027.053	749489.481	Uranium-235	0.199	NA	8	0.094	pCi/g	0.0	0.5
BW40-029	2082027.053	749489.481	Uranium-238	3.747	NA	351	2.000	pCi/g	0.0	0.5
BW40-029	2082027.053	749489.481	Uranium-235	0.171	NA	8	0.120	pCi/g	0.5	2.5
BW40-029	2082027.053	749489.481	Uranium-238	2.375	NA	351	1.490	pCi/g	0.5	2.5
BW40-030	2082032.631	749433.363	2-Methylnaphthalene	98.000	35.000	20400000	NA	µg/kg	0.0	0.5
BW40-030	2082032.631	749433.363	Acenaphthene	440.000	34.000	40800000	NA	µg/kg	0.0	0.5
BW40-030	2082032.631	749433.363	Anthracene	440.000	26.000	204000000	NA	µg/kg	0.0	0.5
BW40-030	2082032.631	749433.363	Benzo(a)anthracene	890.000	27.000	34900	NA	µg/kg	0.0	0.5
BW40-030	2082032.631	749433.363	Benzo(a)pyrene	960.000	44.000	3490	NA	µg/kg	0.0	0.5
BW40-030	2082032.631	749433.363	Benzo(b)fluoranthene	900.000	31.000	34900	NA	µg/kg	0.0	0.5
BW40-030	2082032.631	749433.363	Benzo(k)fluoranthene	660.000	35.000	349000	NA	µg/kg	0.0	0.5
BW40-030	2082032.631	749433.363	bis(2-Ethylhexyl)phthalate	600.000	78.000	1970000	NA	µg/kg	0.0	0.5
BW40-030	2082032.631	749433.363	Chrysene	940.000	30.000	3490000	NA	µg/kg	0.0	0.5
BW40-030	2082032.631	749433.363	Copper	19.000	NA	40900	18.060	mg/kg	0.0	0.5
BW40-030	2082032.631	749433.363	Dibenz(a,h)anthracene	170.000	27.000	3490	NA	µg/kg	0.0	0.5
BW40-030	2082032.631	749433.363	Dibenzofuran	170.000	39.000	2950000	NA	µg/kg	0.0	0.5
BW40-030	2082032.631	749433.363	Fluoranthene	2500.000	25.000	27200000	NA	µg/kg	0.0	0.5
BW40-030	2082032.631	749433.363	Fluorene	330.000	37.000	40800000	NA	µg/kg	0.0	0.5
BW40-030	2082032.631	749433.363	Indeno(1,2,3-cd)pyrene	590.000	25.000	34900	NA	µg/kg	0.0	0.5
BW40-030	2082032.631	749433.363	Naphthalene	240.000	35.000	3090000	NA	µg/kg	0.0	0.5
BW40-030	2082032.631	749433.363	Pyrene	2200.000	150.000	22100000	NA	µg/kg	0.0	0.5
BW40-030	2082032.631	749433.363	Uranium-235	0.152	NA	8	0.094	pCi/g	0.0	0.5
BW40-030	2082032.631	749433.363	2-Methylnaphthalene	49.000	35.000	20400000	NA	µg/kg	0.5	2.5
BW40-030	2082032.631	749433.363	Acenaphthene	260.000	34.000	40800000	NA	µg/kg	0.5	2.5
BW40-030	2082032.631	749433.363	Anthracene	280.000	26.000	204000000	NA	µg/kg	0.5	2.5
BW40-030	2082032.631	749433.363	Benzo(a)anthracene	640.000	27.000	34900	NA	µg/kg	0.5	2.5
BW40-030	2082032.631	749433.363	Benzo(a)pyrene	660.000	44.000	3490	NA	µg/kg	0.5	2.5
BW40-030	2082032.631	749433.363	Benzo(b)fluoranthene	580.000	32.000	34900	NA	µg/kg	0.5	2.5
BW40-030	2082032.631	749433.363	Benzo(k)fluoranthene	480.000	35.000	349000	NA	µg/kg	0.5	2.5
BW40-030	2082032.631	749433.363	Chrysene	660.000	31.000	3490000	NA	µg/kg	0.5	2.5

Location	Actual Easting	Actual Northing	Analyte	Result	Reporting Limit	WRW AL	Background Mean Plus 2 Standard Deviations	Unit	Start Depth (ft)	End Depth (ft)
BW40-030	2082032.631	749433.363	Dibenz(a,h)anthracene	110.000	27.000	3490	NA	µg/kg	0.5	2.5
BW40-030	2082032.631	749433.363	Dibenzofuran	92.000	40.000	2950000	NA	µg/kg	0.5	2.5
BW40-030	2082032.631	749433.363	Fluoranthene	1600.000	25.000	27200000	NA	µg/kg	0.5	2.5
BW40-030	2082032.631	749433.363	Fluorene	200.000	38.000	40800000	NA	µg/kg	0.5	2.5
BW40-030	2082032.631	749433.363	Indeno(1,2,3-cd)pyrene	400.000	25.000	34900	NA	µg/kg	0.5	2.5
BW40-030	2082032.631	749433.363	Naphthalene	110.000	35.000	3090000	NA	µg/kg	0.5	2.5
BW40-030	2082032.631	749433.363	Pyrene	1500.000	150.000	22100000	NA	µg/kg	0.5	2.5
BW40-030	2082032.631	749433.363	Uranium-235	0.131	NA	8	0.120	pCi/g	0.5	2.5
BW40-031	2081961.520	749366.952	2-Methylnaphthalene	52.000	35.000	20400000	NA	µg/kg	0.0	0.5
BW40-031	2081961.520	749366.952	Acenaphthene	250.000	34.000	40800000	NA	µg/kg	0.0	0.5
BW40-031	2081961.520	749366.952	Anthracene	480.000	26.000	204000000	NA	µg/kg	0.0	0.5
BW40-031	2081961.520	749366.952	Benzo(a)anthracene	700.000	27.000	34900	NA	µg/kg	0.0	0.5
BW40-031	2081961.520	749366.952	Benzo(a)pyrene	610.000	44.000	3490	NA	µg/kg	0.0	0.5
BW40-031	2081961.520	749366.952	Benzo(b)fluoranthene	410.000	32.000	34900	NA	µg/kg	0.0	0.5
BW40-031	2081961.520	749366.952	Benzo(k)fluoranthene	570.000	35.000	349000	NA	µg/kg	0.0	0.5
BW40-031	2081961.520	749366.952	Chrysene	680.000	30.000	3490000	NA	µg/kg	0.0	0.5
BW40-031	2081961.520	749366.952	Cobalt	38.000	NA	1550	10.910	mg/kg	0.0	0.5
BW40-031	2081961.520	749366.952	Copper	100.000	NA	40900	18.060	mg/kg	0.0	0.5
BW40-031	2081961.520	749366.952	Dibenzofuran	100.000	39.000	2950000	NA	µg/kg	0.0	0.5
BW40-031	2081961.520	749366.952	Fluoranthene	1800.000	25.000	27200000	NA	µg/kg	0.0	0.5
BW40-031	2081961.520	749366.952	Fluorene	210.000	37.000	40800000	NA	µg/kg	0.0	0.5
BW40-031	2081961.520	749366.952	Indeno(1,2,3-cd)pyrene	390.000	25.000	34900	NA	µg/kg	0.0	0.5
BW40-031	2081961.520	749366.952	Naphthalene	110.000	35.000	3090000	NA	µg/kg	0.0	0.5
BW40-031	2081961.520	749366.952	Pyrene	1900.000	150.000	22100000	NA	µg/kg	0.0	0.5
BW40-031	2081961.520	749366.952	Strontium	100.000	NA	613000	48.940	mg/kg	0.0	0.5
BW40-031	2081961.520	749366.952	Tin	9.900	NA	613000	2.900	mg/kg	0.0	0.5
BW40-031	2081961.520	749366.952	Zinc	200.000	NA	307000	73.760	mg/kg	0.0	0.5
BW40-031	2081961.520	749366.952	2-Methylnaphthalene	110.000	36.000	20400000	NA	µg/kg	0.5	2.5
BW40-031	2081961.520	749366.952	Acenaphthene	360.000	35.000	40800000	NA	µg/kg	0.5	2.5
BW40-031	2081961.520	749366.952	Anthracene	550.000	27.000	204000000	NA	µg/kg	0.5	2.5
BW40-031	2081961.520	749366.952	Benzo(a)anthracene	690.000	28.000	34900	NA	µg/kg	0.5	2.5

Location	Actual Easting	Actual Northing	Analyte	Result	Reporting Limit	WRW AL	Background Mean Plus 2 Standard Deviations	Unit	Start Depth (ft)	End Depth (ft)
BW40-031	2081961.520	749366.952	Benzo(a)pyrene	680.000	46.000	3490	NA	µg/kg	0.5	2.5
BW40-031	2081961.520	749366.952	Benzo(b)fluoranthene	440.000	33.000	34900	NA	µg/kg	0.5	2.5
BW40-031	2081961.520	749366.952	Benzo(k)fluoranthene	570.000	36.000	349000	NA	µg/kg	0.5	2.5
BW40-031	2081961.520	749366.952	Chrysene	690.000	32.000	3490000	NA	µg/kg	0.5	2.5
BW40-031	2081961.520	749366.952	Copper	57.000	NA	40900	38.210	mg/kg	0.5	2.5
BW40-031	2081961.520	749366.952	Dibenzofuran	170.000	41.000	2950000	NA	µg/kg	0.5	2.5
BW40-031	2081961.520	749366.952	Fluoranthene	2100.000	26.000	27200000	NA	µg/kg	0.5	2.5
BW40-031	2081961.520	749366.952	Fluorene	300.000	39.000	40800000	NA	µg/kg	0.5	2.5
BW40-031	2081961.520	749366.952	Indeno(1,2,3-cd)pyrene	400.000	26.000	34900	NA	µg/kg	0.5	2.5
BW40-031	2081961.520	749366.952	Lead	25.000	NA	1000	24.970	mg/kg	0.5	2.5
BW40-031	2081961.520	749366.952	Naphthalene	340.000	36.000	3090000	NA	µg/kg	0.5	2.5
BW40-031	2081961.520	749366.952	Pyrene	2000.000	150.000	22100000	NA	µg/kg	0.5	2.5
BW40-031	2081961.520	749366.952	Uranium-235	0.138	NA	8	0.120	pCi/g	0.5	2.5
BW40-031	2081961.520	749366.952	Uranium-238	1.515	NA	351	1.490	pCi/g	0.5	2.5
BW40-031	2081961.520	749366.952	Zinc	1200.000	NA	307000	139.100	mg/kg	0.5	2.5
BW40-032	2082003.286	749367.002	Acenaphthene	130.000	34.000	40800000	NA	µg/kg	0.0	0.5
BW40-032	2082003.286	749367.002	Anthracene	200.000	26.000	204000000	NA	µg/kg	0.0	0.5
BW40-032	2082003.286	749367.002	Benzo(a)anthracene	640.000	27.000	34900	NA	µg/kg	0.0	0.5
BW40-032	2082003.286	749367.002	Benzo(a)pyrene	670.000	44.000	3490	NA	µg/kg	0.0	0.5
BW40-032	2082003.286	749367.002	Benzo(b)fluoranthene	500.000	32.000	34900	NA	µg/kg	0.0	0.5
BW40-032	2082003.286	749367.002	Benzo(k)fluoranthene	550.000	35.000	349000	NA	µg/kg	0.0	0.5
BW40-032	2082003.286	749367.002	Chrysene	700.000	31.000	3490000	NA	µg/kg	0.0	0.5
BW40-032	2082003.286	749367.002	Cobalt	23.000	NA	1550	10.910	mg/kg	0.0	0.5
BW40-032	2082003.286	749367.002	Copper	71.000	NA	40900	18.060	mg/kg	0.0	0.5
BW40-032	2082003.286	749367.002	Fluoranthene	1300.000	25.000	27200000	NA	µg/kg	0.0	0.5
BW40-032	2082003.286	749367.002	Fluorene	81.000	37.000	40800000	NA	µg/kg	0.0	0.5
BW40-032	2082003.286	749367.002	Indeno(1,2,3-cd)pyrene	450.000	25.000	34900	NA	µg/kg	0.0	0.5
BW40-032	2082003.286	749367.002	Pyrene	1500.000	150.000	22100000	NA	µg/kg	0.0	0.5
BW40-032	2082003.286	749367.002	Tin	6.800	NA	613000	2.900	mg/kg	0.0	0.5
BW40-032	*2082003.286*	*749367.002*	*Uranium-234*	*3.991*	NA	*300*	*2.253*	*pCi/g*	*0.0*	*0.5*
BW40-032	2082003.286	749367.002	Uranium-238	3.991	NA	351	2.000	pCi/g	0.0	0.5

Location	Actual Easting	Actual Northing	Analyte	Result	Reporting Limit	WRW AL	Background Mean Plus 2 Standard Deviations	Unit	Start Depth (ft)	End Depth (ft)
BW40-032	2082003.286	749367.002	Fluoranthene	57.000	25.000	27200000	NA	µg/kg	0.5	2.5
BW40-032	*2082003.286*	*749367.002*	*Uranium-234*	*5.548*	NA	*300*	*2.640*	*pCi/g*	*0.5*	*2.5*
BW40-032	2082003.286	749367.002	Uranium-235	0.198	NA	8	0.120	pCi/g	0.5	2.5
BW40-032	2082003.286	749367.002	Uranium-238	5.548	NA	351	1.490	pCi/g	0.5	2.5
BW40-033	2082002.224	749521.040	2-Methylnaphthalene	63.000	34.000	20400000	NA	µg/kg	0.0	0.5
BW40-033	2082002.224	749521.040	Acenaphthene	380.000	32.000	40800000	NA	µg/kg	0.0	0.5
BW40-033	2082002.224	749521.040	Anthracene	530.000	25.000	204000000	NA	µg/kg	0.0	0.5
BW40-033	2082002.224	749521.040	Benzo(a)anthracene	830.000	26.000	34900	NA	µg/kg	0.0	0.5
BW40-033	2082002.224	749521.040	Benzo(a)pyrene	700.000	42.000	3490	NA	µg/kg	0.0	0.5
BW40-033	2082002.224	749521.040	Benzo(b)fluoranthene	740.000	30.000	34900	NA	µg/kg	0.0	0.5
BW40-033	2082002.224	749521.040	Benzo(k)fluoranthene	410.000	34.000	349000	NA	µg/kg	0.0	0.5
BW40-033	2082002.224	749521.040	Chrysene	770.000	29.000	3490000	NA	µg/kg	0.0	0.5
BW40-033	2082002.224	749521.040	Dibenz(a,h)anthracene	130.000	26.000	3490	NA	µg/kg	0.0	0.5
BW40-033	2082002.224	749521.040	Dibenzofuran	130.000	38.000	2950000	NA	µg/kg	0.0	0.5
BW40-033	2082002.224	749521.040	Fluoranthene	1900.000	24.000	27200000	NA	µg/kg	0.0	0.5
BW40-033	2082002.224	749521.040	Fluorene	310.000	36.000	40800000	NA	µg/kg	0.0	0.5
BW40-033	2082002.224	749521.040	Indeno(1,2,3-cd)pyrene	340.000	24.000	34900	NA	µg/kg	0.0	0.5
BW40-033	2082002.224	749521.040	Naphthalene	120.000	34.000	3090000	NA	µg/kg	0.0	0.5
BW40-033	2082002.224	749521.040	Pyrene	1800.000	140.000	22100000	NA	µg/kg	0.0	0.5
BW40-033	*2082002.224*	*749521.040*	*Uranium-234*	*2.823*	NA	*300*	*2.253*	*pCi/g*	*0.0*	*0.5*
BW40-033	2082002.224	749521.040	Uranium-235	0.177	NA	8	0.094	pCi/g	0.0	0.5
BW40-033	2082002.224	749521.040	Uranium-238	2.823	NA	351	2.000	pCi/g	0.0	0.5
BW40-033	2082002.224	749521.040	Anthracene	44.000	25.000	204000000	NA	µg/kg	0.5	2.5
BW40-033	2082002.224	749521.040	Benzo(a)anthracene	120.000	26.000	34900	NA	µg/kg	0.5	2.5
BW40-033	2082002.224	749521.040	Benzo(a)pyrene	130.000	43.000	3490	NA	µg/kg	0.5	2.5
BW40-033	2082002.224	749521.040	Benzo(b)fluoranthene	130.000	31.000	34900	NA	µg/kg	0.5	2.5
BW40-033	2082002.224	749521.040	Benzo(k)fluoranthene	49.000	34.000	349000	NA	µg/kg	0.5	2.5
BW40-033	2082002.224	749521.040	bis(2-Ethylhexyl)phthalate	200.000	77.000	1970000	NA	µg/kg	0.5	2.5
BW40-033	2082002.224	749521.040	Chrysene	150.000	30.000	3490000	NA	µg/kg	0.5	2.5
BW40-033	2082002.224	749521.040	Fluoranthene	240.000	24.000	27200000	NA	µg/kg	0.5	2.5
BW40-033	2082002.224	749521.040	Indeno(1,2,3-cd)pyrene	69.000	24.000	34900	NA	µg/kg	0.5	2.5

Location	Actual Easting	Actual Northing	Analyte	Result	Reporting Limit	WRW AL	Background Mean Plus 2 Standard Deviations	Unit	Start Depth (ft)	End Depth (ft)
BW40-033	2082002.224	749521.040	Pyrene	250.000	140.000	22100000	NA	µg/kg	0.5	2.5
BW40-033	2082002.224	749521.040	Uranium-235	0.185	NA	8	0.120	pCi/g	0.5	2.5
BW40-034	2081959.331	749478.399	Acenaphthene	910.000	32.000	40800000	NA	µg/kg	0.0	0.5
BW40-034	2081959.331	749478.399	Anthracene	1100.000	25.000	204000000	NA	µg/kg	0.0	0.5
BW40-034	2081959.331	749478.399	Benzo(a)anthracene	1800.000	26.000	34900	NA	µg/kg	0.0	0.5
BW40-034	2081959.331	749478.399	Benzo(a)pyrene	1800.000	42.000	3490	NA	µg/kg	0.0	0.5
BW40-034	2081959.331	749478.399	Benzo(b)fluoranthene	2900.000	30.000	34900	NA	µg/kg	0.0	0.5
BW40-034	2081959.331	749478.399	Chrysene	1900.000	29.000	3490000	NA	µg/kg	0.0	0.5
BW40-034	2081959.331	749478.399	Dibenz(a,h)anthracene	310.000	26.000	3490	NA	µg/kg	0.0	0.5
BW40-034	2081959.331	749478.399	Dibenzofuran	390.000	37.000	2950000	NA	µg/kg	0.0	0.5
BW40-034	2081959.331	749478.399	Fluoranthene	6200.000	24.000	27200000	NA	µg/kg	0.0	0.5
BW40-034	2081959.331	749478.399	Fluorene	780.000	35.000	40800000	NA	µg/kg	0.0	0.5
BW40-034	2081959.331	749478.399	Indeno(1,2,3-cd)pyrene	870.000	24.000	34900	NA	µg/kg	0.0	0.5
BW40-034	2081959.331	749478.399	Mercury	0.140	NA	25200	0.134	mg/kg	0.0	0.5
BW40-034	2081959.331	749478.399	Naphthalene	720.000	33.000	3090000	NA	µg/kg	0.0	0.5
BW40-034	2081959.331	749478.399	Pyrene	3500.000	140.000	22100000	NA	µg/kg	0.0	0.5
BW40-034	*2081959.331*	*749478.399*	*Uranium-234*	*5.528*	NA	*300*	*2.253*	*pCi/g*	*0.0*	*0.5*
BW40-034	2081959.331	749478.399	Uranium-235	0.467	NA	8	0.094	pCi/g	0.0	0.5
BW40-034	2081959.331	749478.399	Uranium-238	5.528	NA	351	2.000	pCi/g	0.0	0.5
BW40-034	2081959.331	749478.399	Copper	66.000	NA	40900	38.210	mg/kg	0.5	2.5
BW40-034	2081959.331	749478.399	Lead	160.000	NA	1000	24.970	mg/kg	0.5	2.5
BW40-034	2081959.331	749478.399	Uranium, Total	4.900	NA	2750	3.040	mg/kg	0.5	2.5
BW40-034	2081959.331	749478.399	Uranium-235	0.185	NA	8	0.120	pCi/g	0.5	2.5
BW40-034	2081959.331	749478.399	Uranium-238	1.899	NA	351	1.490	pCi/g	0.5	2.5
BW41-002	2081949.733	749590.865	2-Methylnaphthalene	470.000	32.000	20400000	NA	µg/kg	0.0	0.5
BW41-002	2081949.733	749590.865	Acenaphthene	1600.000	31.000	40800000	NA	µg/kg	0.0	0.5
BW41-002	2081949.733	749590.865	Aluminum	19000.000	NA	228000	16902.000	mg/kg	0.0	0.5
BW41-002	2081949.733	749590.865	Anthracene	1800.000	24.000	204000000	NA	µg/kg	0.0	0.5
BW41-002	2081949.733	749590.865	Benzo(a)anthracene	1900.000	25.000	34900	NA	µg/kg	0.0	0.5
BW41-002	2081949.733	749590.865	Benzo(a)pyrene	1900.000	41.000	3490	NA	µg/kg	0.0	0.5
BW41-002	2081949.733	749590.865	Benzo(b)fluoranthene	2100.000	29.000	34900	NA	µg/kg	0.0	0.5

Location	Actual Easting	Actual Northing	Analyte	Result	Reporting Limit	WRW AL	Background Mean Plus 2 Standard Deviations	Unit	Start Depth (ft)	End Depth (ft)
BW41-002	2081949.733	749590.865	Benzo(k)fluoranthene	1000.000	32.000	349000	NA	µg/kg	0.0	0.5
BW41-002	2081949.733	749590.865	Beryllium	1.000	NA	921	0.966	mg/kg	0.0	0.5
BW41-002	2081949.733	749590.865	Chromium	18.000	NA	268	16.990	mg/kg	0.0	0.5
BW41-002	2081949.733	749590.865	Chrysene	1900.000	28.000	3490000	NA	µg/kg	0.0	0.5
BW41-002	2081949.733	749590.865	Dibenz(a,h)anthracene	310.000	25.000	3490	NA	µg/kg	0.0	0.5
BW41-002	2081949.733	749590.865	Dibenzofuran	640.000	36.000	2950000	NA	µg/kg	0.0	0.5
BW41-002	2081949.733	749590.865	Fluoranthene	6000.000	23.000	27200000	NA	µg/kg	0.0	0.5
BW41-002	2081949.733	749590.865	Fluorene	1400.000	34.000	40800000	NA	µg/kg	0.0	0.5
BW41-002	2081949.733	749590.865	Indeno(1,2,3-cd)pyrene	1000.000	23.000	34900	NA	µg/kg	0.0	0.5
BW41-002	2081949.733	749590.865	Lithium	12.000	NA	20400	11.550	mg/kg	0.0	0.5
BW41-002	2081949.733	749590.865	Naphthalene	1000.000	32.000	3090000	NA	µg/kg	0.0	0.5
BW41-002	2081949.733	749590.865	Pyrene	4800.000	140.000	22100000	NA	µg/kg	0.0	0.5
BW41-002	2081949.733	749590.865	Uranium-235	0.139	NA	8	0.094	pCi/g	0.0	0.5
BW41-002	2081949.733	749590.865	Acenaphthene	66.000	33.000	40800000	NA	µg/kg	0.5	2.5
BW41-002	2081949.733	749590.865	Anthracene	92.000	25.000	204000000	NA	µg/kg	0.5	2.5
BW41-002	2081949.733	749590.865	Benzo(a)anthracene	180.000	26.000	34900	NA	µg/kg	0.5	2.5
BW41-002	2081949.733	749590.865	Benzo(a)pyrene	200.000	43.000	3490	NA	µg/kg	0.5	2.5
BW41-002	2081949.733	749590.865	Benzo(b)fluoranthene	250.000	31.000	34900	NA	µg/kg	0.5	2.5
BW41-002	2081949.733	749590.865	Benzo(k)fluoranthene	90.000	34.000	349000	NA	µg/kg	0.5	2.5
BW41-002	2081949.733	749590.865	Chrysene	190.000	30.000	3490000	NA	µg/kg	0.5	2.5
BW41-002	2081949.733	749590.865	Dibenz(a,h)anthracene	45.000	26.000	3490	NA	µg/kg	0.5	2.5
BW41-002	2081949.733	749590.865	Fluoranthene	350.000	24.000	27200000	NA	µg/kg	0.5	2.5
BW41-002	2081949.733	749590.865	Indeno(1,2,3-cd)pyrene	130.000	24.000	34900	NA	µg/kg	0.5	2.5
BW41-002	2081949.733	749590.865	Pyrene	370.000	140.000	22100000	NA	µg/kg	0.5	2.5
BW41-002	2081949.733	749590.865	Xylene	15.300	10.300	2040000	NA	µg/kg	0.5	2.5
BW41-003	2081981.788	749585.683	Aluminum	19000.000	NA	228000	16902.000	mg/kg	0.0	0.5
BW41-003	2081981.788	749585.683	Anthracene	41.000	24.000	204000000	NA	µg/kg	0.0	0.5
BW41-003	2081981.788	749585.683	Benzo(a)anthracene	120.000	25.000	34900	NA	µg/kg	0.0	0.5
BW41-003	2081981.788	749585.683	Benzo(a)pyrene	130.000	41.000	3490	NA	µg/kg	0.0	0.5
BW41-003	2081981.788	749585.683	Benzo(b)fluoranthene	190.000	29.000	34900	NA	µg/kg	0.0	0.5
BW41-003	2081981.788	749585.683	Beryllium	1.000	NA	921	0.966	mg/kg	0.0	0.5

Location	Actual Easting	Actual Northing	Analyte	Result	Reporting Limit	WRW AL	Background Mean Plus 2 Standard Deviations	Unit	Start Depth (ft)	End Depth (ft)
BW41-003	2081981.788	749585.683	Chromium	17.000	NA	268	16.990	mg/kg	0.0	0.5
BW41-003	2081981.788	749585.683	Chrysene	120.000	28.000	3490000	NA	µg/kg	0.0	0.5
BW41-003	2081981.788	749585.683	Fluoranthene	250.000	23.000	27200000	NA	µg/kg	0.0	0.5
BW41-003	2081981.788	749585.683	Indeno(1,2,3-cd)pyrene	87.000	23.000	34900	NA	µg/kg	0.0	0.5
BW41-003	2081981.788	749585.683	Nickel	15.000	NA	20400	14.910	mg/kg	0.0	0.5
BW41-003	2081981.788	749585.683	Pyrene	220.000	140.000	22100000	NA	µg/kg	0.0	0.5
BW41-003	2081981.788	749585.683	1,1-Dichloroethene	1.400	1.200	17000	NA	µg/kg	0.5	2.5
BW41-003	2081981.788	749585.683	2-Butanone	11.000	5.100	192000000	NA	µg/kg	0.5	2.5
BW41-003	2081981.788	749585.683	Acenaphthene	52.000	32.000	40800000	NA	µg/kg	0.5	2.5
BW41-003	2081981.788	749585.683	Acetone	50.000	5.000	102000000	NA	µg/kg	0.5	2.5
BW41-003	2081981.788	749585.683	Anthracene	70.000	25.000	204000000	NA	µg/kg	0.5	2.5
BW41-003	2081981.788	749585.683	Benzo(a)anthracene	190.000	26.000	34900	NA	µg/kg	0.5	2.5
BW41-003	2081981.788	749585.683	Benzo(a)pyrene	220.000	42.000	3490	NA	µg/kg	0.5	2.5
BW41-003	2081981.788	749585.683	Benzo(b)fluoranthene	250.000	30.000	34900	NA	µg/kg	0.5	2.5
BW41-003	2081981.788	749585.683	Benzo(k)fluoranthene	110.000	33.000	349000	NA	µg/kg	0.5	2.5
BW41-003	2081981.788	749585.683	Chrysene	210.000	29.000	3490000	NA	µg/kg	0.5	2.5
BW41-003	2081981.788	749585.683	Fluoranthene	390.000	24.000	27200000	NA	µg/kg	0.5	2.5
BW41-003	2081981.788	749585.683	Fluorene	52.000	36.000	40800000	NA	µg/kg	0.5	2.5
BW41-003	2081981.788	749585.683	Indeno(1,2,3-cd)pyrene	160.000	24.000	34900	NA	µg/kg	0.5	2.5
BW41-003	2081981.788	749585.683	Naphthalene	1.600	0.930	3090000	NA	µg/kg	0.5	2.5
BW41-003	2081981.788	749585.683	Pyrene	380.000	140.000	22100000	NA	µg/kg	0.5	2.5
BW41-003	2081981.788	749585.683	Toluene	2.200	0.840	31300000	NA	µg/kg	0.5	2.5
BW41-003	2081981.788	749585.683	Vinyl chloride	2.800	1.200	41200	NA	µg/kg	0.5	2.5
BW41-003	2081981.788	749585.683	Xylene	3.100	3.000	2040000	NA	µg/kg	0.5	2.5
BW41-004	2082017.334	749580.538	Acenaphthene	140.000	31.000	40800000	NA	µg/kg	0.0	0.5
BW41-004	2082017.334	749580.538	Anthracene	170.000	24.000	204000000	NA	µg/kg	0.0	0.5
BW41-004	2082017.334	749580.538	Benzo(a)anthracene	310.000	25.000	34900	NA	µg/kg	0.0	0.5
BW41-004	2082017.334	749580.538	Benzo(a)pyrene	340.000	41.000	3490	NA	µg/kg	0.0	0.5
BW41-004	2082017.334	749580.538	Benzo(b)fluoranthene	490.000	29.000	34900	NA	µg/kg	0.0	0.5
BW41-004	2082017.334	749580.538	Chrysene	310.000	28.000	3490000	NA	µg/kg	0.0	0.5
BW41-004	2082017.334	749580.538	Fluoranthene	650.000	23.000	27200000	NA	µg/kg	0.0	0.5

Location	Actual Easting	Actual Northing	Analyte	Result	Reporting Limit	WRW AL	Background Mean Plus 2 Standard Deviations	Unit	Start Depth (ft)	End Depth (ft)
BW41-004	2082017.334	749580.538	Fluorene	110.000	34.000	40800000	NA	µg/kg	0.0	0.5
BW41-004	2082017.334	749580.538	Indeno(1,2,3-cd)pyrene	200.000	23.000	34900	NA	µg/kg	0.0	0.5
BW41-004	2082017.334	749580.538	Pyrene	600.000	140.000	22100000	NA	µg/kg	0.0	0.5
BW41-004	2082017.334	749580.538	Uranium-235	0.101	NA	8	0.094	pCi/g	0.0	0.5
BW41-004	2082017.334	749580.538	Benzo(a)anthracene	40.000	25.000	34900	NA	µg/kg	0.5	2.5
BW41-004	2082017.334	749580.538	Fluoranthene	56.000	23.000	27200000	NA	µg/kg	0.5	2.5
BW41-004	2082017.334	749580.538	Uranium-235	0.140	NA	8	0.120	pCi/g	0.5	2.5
BW41-004	2082017.334	749580.538	Vinyl chloride	7.670	5.480	41200	NA	µg/kg	0.5	2.5

mg/kg = milligrams per kilogram pCi/kg = picocuries per kilogram

Italic font denotes result derived by calculation based on another analysis

Bold font denotes WRW AL exceedance

0HIS TARGET SHEET REPRESENTS AN
OVER-SIZED MAP / PLATE FOR THIS DOCUMENT:
(Ref: 04-RF-01170; KLW-041-04)

Draft Data Summary Report IHSS Group 300-2 UBC 331 (Maintenance) and IHSS 300-134(S) (Lithium Metal Destruction Site)

November, 2004

Figure 3:

IHSS Group 300-2 Accelerated Action Sampling Results Greater Than Background Means Plus Two Standard Deviations or Reporting Limits - Surface

File: W\Projects\Fy2005/300-2/300-2_Closeout.apr

November 11, 2004

CERCLA Administrative Record Document, IA-A-002413

U.S. DEPARTEMENT OF ENERGY
ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

GOLDEN, COLORADO

60

0HIS TARGET SHEET REPRESENTS AN
OVER-SIZED MAP / PLATE FOR THIS DOCUMENT:
(Ref: 04-RF-01170; KLW-041-04)

Draft Data Summary Report IHSS Group 300-2 UBC 331 (Maintenance) and IHSS 300-134(S) (Lithium Metal Destruction Site)

November, 2004

Figure 4:

IHSS Group 300-2 Accelerated Action Sampling Results Greater Than Background Means Plus Two Standard Deviations or Reporting Limits - Subsurface

File: W\Projects\Fy2005/300-2/300-2_Closeout.apr

November 11, 2004

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61

3.0 SUMS OF RATIOS

Radionuclide RFCA sums of ratios (SORs) were calculated for IHSS Group 300-2 sampling locations based on the accelerated action analytical data for the COCs and the WRW ALs. Radionuclide SORs were calculated for all locations with analytical results greater than background means plus two standard deviations or RLs for americium-241, plutonium-239/240, uranium-234, uranium-235, and uranium-238. Plutonium-239/240 activities are derived from the americium-241 activities (that is, plutonium-239/240 activity = americium-241 gamma spectroscopy activity x 5.7) where HPGe detection was used for analysis. Table 4 presents the SORs for surface soil (0 to 2.5 ft). All SORs for radionuclides in soil are less than 1.

Table 4
RFCA Radionuclide SORs

Location Code	Start Depth (ft)	End Depth (ft)	SOR to WRW
BV40-000	0	0.5	0.060
BV40-000	0.5	1.2	0.049
BV40-002	0	0.5	0.026
BV40-002	0.5	1.3	0.006
BV40-003	0	0.5	0.020
BV40-003	0.5	2.5	0.020
BV40-004	0	0.5	0.006
BV40-005	0	0.5	0.060
BV40-005	0.5	1.3	0.004
BV40-006	0	0.5	0.047
BV40-007	0	0.5	0.045
BV40-007	0.5	2.5	0.061
BV40-008	0	0.5	0.052
BV40-008	0.5	1.2	0.020
BV40-009	0	0.5	0.001
BV40-009	0.5	1	0.019
BV40-010	0	0.5	0.060
BV40-010	0.5	1.2	0.042
BV40-011	0	0.5	0.047
BV40-011	0.5	2.5	0.037
BV40-012	0	0.5	0.018
BV40-012	0.5	0.9	0.022
BW40-000	0	0.5	0.045
BW40-000	0.5	1.2	0.055
BW40-001	0	0.5	0.052
BW40-001	0.5	2.5	0.055
BW40-002	0	0.5	0.032
BW40-002	0.5	2.5	0.005
BW40-003	0	0.5	0.044
BW40-003	0.5	2.5	0.050
BW40-005	0	0.5	0.017
BW40-005	0.5	1	0.041

62

Location Code	Start Depth (ft)	End Depth (ft)	SOR to WRW
BW40-006	0	0.5	0.013
BW40-006	0.5	2.5	0.020
BW40-009	0	0.5	0.056
BW40-009	0.5	2.5	0.024
BW40-010	0	0.5	0.046
BW40-010	0.5	2.5	0.051
BW40-018	0.5	0.9	0.030
BW40-019	0	0.5	0.065
BW40-019	0.5	2.5	0.054
BW40-020	0	0.5	0.017
BW40-020	0.5	1.1	0.021
BW40-021	0	0.5	0.044
BW40-021	0.5	2.5	0.053
BW40-022	0	0.5	0.042
BW40-022	0.5	1.1	0.025
BW40-023	0	0.5	0.043
BW40-023	0.5	1.2	0.006
BW40-024	0	0.3	0.059
BW40-025	0	0.5	0.005
BW40-026	0	0.5	0.055
BW40-026	0.5	2.5	0.021
BW40-027	0	0.5	0.105
BW40-027	0.5	2.5	0.030
BW40-028	0	0.5	0.056
BW40-028	0.5	2.5	0.035
BW40-029	0	0.5	0.048
BW40-029	0.5	2.5	0.028
BW40-030	0	0.5	0.019
BW40-030	0.5	2.5	0.016
BW40-031	0.5	2.5	0.022
BW40-032	0	0.5	0.025
BW40-032	0.5	2.5	0.059
BW40-033	0	0.5	0.040
BW40-033	0.5	2.5	0.023
BW40-034	0	0.5	0.093
BW40-034	0.5	2.5	0.028
BW41-002	0	0.5	0.017
BW41-004	0	0.5	0.013
BW41-004	0.5	2.5	0.017

Surface soil SORs for non-radionuclide COCs are shown in Table 5. Non-radionuclide SORs were calculated for all locations with analytical results greater than 10 percent of the WRW ALs. Aluminum, arsenic, iron, manganese, and polyaromatic hydrocarbons were not included in the non-radionuclide SORs. All non-radionuclide SORs for surface soil were less than 1.

63

Table 5
RFCA Non-Radionuclide Surface Soil SORs

Location Code	Start Depth (ft)	End Depth (ft)	SOR to WRW
BV40-001	0.0	0.5	0.134
BV40-010	0.0	0.5	0.104
BW40-018	0.0	0.5	0.194
BW40-023	0.0	0.5	0.254

4.0 SUMMARY STATISTICS

Summary statistics, by analyte, were calculated for the IHSS Group 300-2 sampling locations, as presented in Tables 6 and 7.

Table 6
IHSS Group 300-2 Surface Soil Summary Statistics

Analyte	Number of Samples Analyzed	Detection Frequency	Mean Concentration	Maximum Concentration	Background Mean Plus 2 Standard Deviations	WRW AL	Unit
2,4-Dimethylphenol	42	4.76%	67.500	88.000	NA	20400000	µg/kg
2-Methylnaphthalene	42	35.71%	367.400	1500.000	NA	20400000	µg/kg
4-Methylphenol	42	4.76%	101.500	120.000	NA	3690000	µg/kg
Acenaphthene	42	57.14%	1009.667	8100.000	NA	40800000	µg/kg
Acetone	23	4.35%	5.600	5.600	NA	102000000	µg/kg
Aluminum	42	28.57%	18583.333	22000.000	16902.000	228000	mg/kg
Americium-241	42	7.14%	0.360	0.852	0.023	76	pCi/g
Anthracene	42	64.29%	1078.333	10000.000	NA	204000000	µg/kg
Antimony	42	11.90%	0.652	0.770	0.470	409	mg/kg
Benzo(a)anthracene	42	71.43%	1803.800	19000.000	NA	34900	µg/kg
Benzo(a)pyrene	42	69.05%	1836.345	17000.000	NA	3490	µg/kg
Benzo(b)fluoranthene	42	71.43%	2345.833	26000.000	NA	34900	µg/kg
Benzo(k)fluoranthene	42	45.24%	943.842	4600.000	NA	349000	µg/kg
Beryllium	42	26.19%	1.100	1.200	0.966	921	mg/kg
bis(2-Ethylhexyl)phthalate	42	16.67%	678.571	3100.000	NA	1970000	µg/kg
Butylbenzylphthalate	42	7.14%	2458.333	7100.000	NA	147000000	µg/kg
Chromium	42	26.19%	29.091	68.000	16.990	268	mg/kg
Chrysene	42	71.43%	1810.067	18000.000	NA	3490000	µg/kg
Cobalt	42	9.52%	27.750	38.000	10.910	1550	mg/kg
Copper	42	23.81%	48.100	100.000	18.060	40900	mg/kg
Dibenz(a,h)anthracene	42	42.86%	496.667	3500.000	NA	3490	µg/kg
Dibenzofuran	42	42.86%	524.222	3200.000	NA	2950000	µg/kg
Di-n-butylphthalate	42	2.38%	360.000	360.000	NA	73700000	µg/kg
Fluoranthene	42	73.81%	4507.065	48000.000	NA	27200000	µg/kg
Fluorene	42	57.14%	814.000	6800.000	NA	40800000	µg/kg

64

Analyte	Number of Samples Analyzed	Detection Frequency	Mean Concentration	Maximum Concentration	Background Mean Plus 2 Standard Deviations	WRW AL	Unit
Indeno(1,2,3-cd)pyrene	42	69.05%	1073.517	9900.000	NA	34900	µg/kg
Iron	42	2.38%	21000.000	21000.000	18037.000	307000	mg/kg
Lead	42	2.38%	87.000	87.000	54.620	1000	mg/kg
Lithium	42	4.76%	12.000	12.000	11.550	20400	mg/kg
Manganese	42	2.38%	370.000	370.000	365.080	3480	mg/kg
Mercury	42	2.38%	0.140	0.140	0.134	25200	mg/kg
Naphthalene	42	47.62%	837.055	3900.000	NA	3090000	µg/kg
Nickel	42	21.43%	20.889	38.000	14.910	20400	mg/kg
Plutonium-239/240	42	4.76%	2.546	4.856	0.066	50	pCi/g
Pyrene	42	69.05%	4245.862	45000.000	NA	22100000	µg/kg
Strontium	42	9.52%	73.750	100.000	48.940	613000	mg/kg
Tin	42	4.76%	8.350	9.900	2.900	613000	mg/kg
Toluene	23	4.35%	9.250	9.250	NA	31300000	µg/kg
Uranium, Total	42	2.38%	6.200	6.200	5.980	2750	mg/kg
Uranium-234	42	59.52%	3.929	5.739	2.253	300	pCi/g
Uranium-235	42	76.19%	0.205	0.467	0.094	8	pCi/g
Uranium-238	42	61.90%	3.861	5.739	2.000	351	pCi/g
Vanadium	42	4.76%	53.000	56.000	45.590	7150	mg/kg
Xylene	23	4.35%	17.700	17.700	NA	2040000	µg/kg
Zinc	42	4.76%	165.000	200.000	73.760	307000	mg/kg

Table 7
IHSS Group 300-2 Subsurface Soil Summary Statistics

Analyte	Number of Samples Analyzed	Detection Frequency	Mean Concentration	Maximum Concentration	Background Mean Plus 2 Standard Deviations	WRW AL	Unit
1,1-Dichloroethene	40	5.00%	12.600	23.800	NA	17000	µg/kg
1,2,4-Trichlorobenzene	40	2.50%	1.100	1.100	NA	9230000	µg/kg
1,2-Dichloropropane	40	2.50%	13.000	13.000	NA	345000	µg/kg
2-Butanone	40	2.50%	11.000	11.000	NA	192000000	µg/kg
2-Methylnaphthalene	40	27.50%	139.364	440.000	NA	20400000	µg/kg
Acenaphthene	40	52.50%	310.143	1300.000	NA	40800000	µg/kg
Acetone	40	7.50%	83.667	190.000	NA	102000000	µg/kg
Anthracene	40	57.50%	359.261	1400.000	NA	204000000	µg/kg
Benzo(a)anthracene	40	67.50%	584.926	2600.000	NA	34900	µg/kg
Benzo(a)pyrene	40	60.00%	661.042	2700.000	NA	3490	µg/kg
Benzo(b)fluoranthene	40	60.00%	670.917	2200.000	NA	34900	µg/kg
Benzo(k)fluoranthene	40	45.00%	505.333	2400.000	NA	349000	µg/kg
bis(2-Ethylhexyl)phthalate	40	10.00%	200.000	230.000	NA	1970000	µg/kg
Butylbenzylphthalate	40	7.50%	460.000	790.000	NA	147000000	µg/kg

Analyte	Number of Samples Analyzed	Detection Frequency	Mean Concentration	Maximum Concentration	Background Mean Plus 2 Standard Deviations	WRW AL	Unit
Cadmium	40	2.50%	2.200	2.200	1.700	962	mg/kg
Chrysene	40	62.50%	638.640	2600.000	NA	3490000	µg/kg
Copper	40	7.50%	54.667	66.000	38.210	40900	mg/kg
Dibenz(a,h)anthracene	40	32.50%	175.231	570.000	NA	3490	µg/kg
Dibenzofuran	40	35.00%	177.714	540.000	NA	2950000	µg/kg
Di-n-butylphthalate	40	2.50%	39.000	39.000	NA	73700000	µg/kg
Fluoranthene	40	67.50%	1558.296	7500.000	NA	27200000	µg/kg
Fluorene	40	45.00%	290.500	990.000	NA	40800000	µg/kg
Indeno(1,2,3-cd)pyrene	40	55.00%	418.545	1700.000	NA	34900	µg/kg
Lead	40	7.50%	118.333	170.000	24.970	1000	mg/kg
Naphthalene	40	42.50%	268.824	1600.000	NA	3090000	µg/kg
Pentachlorophenol	40	2.50%	350.000	350.000	NA	162000	µg/kg
Pyrene	40	57.50%	1562.174	5900.000	NA	22100000	µg/kg
Toluene	40	2.50%	2.200	2.200	NA	31300000	µg/kg
Uranium, Total	40	5.00%	4.550	4.900	3.040	2750	mg/kg
Uranium-234	40	40.00%	4.122	5.612	2.640	300	pCi/g
Uranium-235	40	65.00%	0.181	0.295	0.120	8	pCi/g
Uranium-238	40	65.00%	3.261	5.612	1.490	351	pCi/g
Vinyl chloride	40	5.00%	5.235	7.670	NA	41200	µg/kg
Xylene	40	5.00%	9.200	15.300	NA	2040000	µg/kg
Zinc	40	5.00%	695.000	1200.000	139.100	307000	mg/kg

5.0 RCRA UNIT CLOSURE

Not applicable. There were no Resource Conservation and Recovery Act (RCRA) units to be closed.

6.0 SUBSURFACE SOIL RISK SCREEN

The SSRS follows the steps identified in Figure 3 of Attachment 5 of the RFCA Modification (DOE et al. 2003).

Screen 1 – Are the COC concentrations below RFCA Table 3 Soil ALs for the WRW?

Yes. As shown in Table 3, all IHSS Group 300-2 subsurface soil results greater than background means plus two standard deviations or RLs are less than RFCA WRW ALs.

Screen 4 – Is there an environmental pathway and sufficient quantity of COCs that would cause an exceedance of the surface water standards?

No. Contaminant migration via erosion and groundwater are two possible pathways whereby surface water could become contaminated by soil from IHSS Group 300-2. IHSS Group 300-2 is not located in an area subject to erosion as identified on Figure 1 of Attachment 5 of the RFCA (DOE et al. 2003).

Groundwater beneath IHSS Group 300-2 is not within the IA Plume (DOE 2001b) and results from wells downgradient of IHSS Group 300-2 do not include groundwater contamination. Chlorinated solvents associated with the IA Plume where detected in samples from IHSS Group 300-2, but at concentrations well below their respective WRW ALs. Other VOC and SVOC compounds were also detected in Group 300-2 soil, but were also below WRW ALs. Groundwater will be further evaluated in the groundwater Interim Measure/Interim Remedial Action (IM/IRA).

7.0 NO LONGER REPRESENTATIVE SAMPLING LOCATIONS

Because no remediation activities occurred at IHSS Group 300-2, none of the accelerated action sampling locations are being designated as No Longer Representative (NLR).

8.0 NO FURTHER ACCELERATED ACTION SUMMARY

Based on the analytical results and the SSRS, action is not required. An NFAA determination is justified for IHSS Group 300-2, given the following:

- Contaminant concentrations were generally less than WRW ALs.
- In the four cases where SVOCs are present at concentrations greater than WRW ALs at the surface, a hotspot analysis indicates that remediation is not necessary.
- Migration of any residual contaminants to surface water through erosion is unlikely because the area is not prone to landslides or erosion.
- Migration of contaminants in groundwater will not likely impact surface water because of the absence of soil contamination in subsurface samples. Groundwater will be further evaluated in the groundwater IM/IRA.

9.0 DATA QUALITY ASSESSMENT

The Data Quality Objectives (DQOs) for this project are described in the IASAP (DOE 2001a). All DQOs for this project were achieved based on the following:

Regulatory agency-approved sampling program design: IASAP Addendum #IA-03-08 (approval letter dated July 17, 2003 [CDPHE 2003]);

Samples collected in accordance with the IASAP (DOE 2001a); and

Data Quality Assessment (DQA) conducted as documented in the following sections.

9.1 Data Quality Assessment Process

The DQA process ensures that the type, quantity, and quality of environmental data used in decision making are defensible, and is based on the following guidance and requirements:

- U.S. Environmental Protection Agency (EPA), 1994a, Guidance for the Data Quality Objective Process, QA/G-4;
- EPA, 1998, Guidance for the Data Quality Assessment Process; Practical Methods for Data Analysis, QA/G-9; and

- U.S. Department of Energy (DOE), 1999, Quality Assurance, Order 414.1A.

Verification and validation (V&V) of the data are the primary components of the DQA process. The final data are compared with original project DQOs and evaluated with respect to project decisions; uncertainty within the decisions; and quality criteria required for the data, specifically precision, accuracy, representativeness, completeness, comparability, and sensitivity (PARCCS). Validation criteria are consistent with the following RFETS-specific documents and industry guidelines:

- EPA, 1994b, U.S. EPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, 540/R-94/012;
- EPA, 1994c, U.S. EPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, 540/R-94/013;
- Kaiser-Hill Company, L.L.C. (K-H) V&V Guidelines:
  - General Guidelines for Data Verification and Validation, DA-GR01-v2, 2002a
  - V&V Guidelines for Isotopic Determinations by Alpha Spectrometry, DA-RC01-v2, 2002b
  - V&V Guidelines for Volatile Organics, DA-SS01-v3, 2002c
  - V&V Guidelines for Semivolatile Organics, DA-SS02-v3, 2002d
  - V&V Guidelines for Metals, DA-SS05-v3, 2002e; and
- Lockheed-Martin, 1997, Evaluation of Radiochemical Data Usability, ES/ER/MS-5.

This report will be submitted to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Administrative Record (AR) for permanent storage 30 days after being provided to CDPHE and/or EPA.

9.2 Verification and Validation of Results

Verification ensures that data produced and used by the project are documented and traceable in accordance with quality requirements. Validation consists of a technical review of all data that directly support the project decisions so that any limitations of the data relative to project goals are delineated and the associated data are qualified accordingly. The V&V process defines the criteria that constitute data quality, namely PARCCS parameters. Data traceability and archival are also addressed. V&V criteria include the following:

- Chain-of-custody;
- Preservation and hold times;
- Instrument calibrations;
- Preparation blanks;
- Interference check samples (metals);
- Matrix spikes/matrix spike duplicates (MS/MSDs);
- Laboratory control samples (LCSs);
- Field duplicate measurements;

- Chemical yield (radiochemistry);
- Required quantitation limits/minimum detectable activities (sensitivity of chemical and radiochemical measurements, respectively); and
- Sample analysis and preparation methods.

Evaluation of V&V criteria ensures that PARCCS parameters are satisfactory (that is, within tolerances acceptable to the project). Satisfactory V&V of laboratory quality controls are captured through application of validation "flags" or qualifiers to individual records.

Raw, hard-copy data (for example, individual analytical data packages) are currently filed by report identification number (RIN) and maintained by K-H Analytical Services Division (ASD); older hard copies may reside in the Federal Center in Lakewood, Colorado. Electronic data are stored in the RFETS Soil Water Database (SWD).

The data sets addressed in this report are included on the enclosed compact disc in Microsoft Access 2000 format.

9.2.1 Accuracy

The following measures of accuracy were evaluated:

- LCSs;
- Surrogates;
- Field blanks; and
- Sample MSs.

Results are compared to method requirements and project goals. The results of these comparisons are summarized for RFCA COCs where the result could impact project decisions. Particular attention is paid to those values near ALs when QC results could indicate unacceptable levels of uncertainty for decision-making purposes.

Laboratory Control Sample Evaluation

The frequency of LCS measurements is presented in Table 8. As indicated in Table 8 LCS analyses were run for all methods except for gamma spectroscopy. The onsite laboratories are not required to provide this data.

Table 8
LCS Summary

Test Method	Laboratory Batch Number	Laboratory Control Standards
Alpha Spectrometry	359969	Yes
Alpha Spectrometry	359970	Yes
Alpha Spectrometry	359971	Yes
Alpha Spectrometry	360848	Yes
Alpha Spectrometry	360860	Yes
Alpha Spectrometry	363659	Yes

Alpha Spectrometry	363664	Yes
Alpha Spectrometry	363666	Yes
Alpha Spectrometry	363834	Yes
Alpha Spectrometry	363946	Yes
Alpha Spectrometry	363947	Yes
Alpha Spectrometry	363948	Yes
SW-846 6010	4232609	Yes
SW-846 6010	4232619	Yes
SW-846 6010	4233181	Yes
SW-846 6010	4233206	Yes
SW-846 6010	4237647	Yes
SW-846 6010	4237649	Yes
SW-846 6010	4238316	Yes
SW-846 6010	4239620	Yes
SW-846 6010	4239621	Yes
SW-846 6010	4243165	Yes
SW-846 6010	4243197	Yes
SW-846 6010	4244268	Yes
SW-846 6010	4244493	Yes
SW-846 6010	4245147	Yes
SW-846 6010	4245609	Yes
SW-846 6010	4246575	Yes
SW-846 6010	4251245	Yes
SW-846 6010	4251248	Yes
SW-846 6010	4251587	Yes
SW-846 6010	4253194	Yes
SW-846 6010	4259583	Yes
SW-846 6010	4264486	Yes
SW-846 6010	4265543	Yes
SW-846 6010	4271543	Yes
SW-846 6010	4271546	Yes
SW-846 8260	4233251	Yes
SW-846 8260	4240443	Yes
SW-846 8260	4250025	Yes
SW-846 8260	MS1 VOA_040816B	Yes
SW-846 8260	MS1 VOA_040818A	Yes
SW-846 8260	MS1 VOA_040820A	Yes
SW-846 8260	MS1 VOA_040823A	Yes
SW-846 8260	MS1 VOA_040824A	Yes
SW-846 8260	MS1 VOA_040825A	Yes
SW-846 8260	MS1 VOA_040826A	Yes
SW-846 8260	MS1 VOA_040830A	Yes
SW-846 8260	MS1 VOA_040831A	Yes
SW-846 8260	MS1 VOA_040913A	Yes
SW-846 8260	MS1 VOA_040915A	Yes
SW-846 8260	MS2 VOA_040823B	Yes

SW-846 8260	MS3 VOA_040817A	Yes
SW-846 8260	MS3 VOA_040818A	Yes
SW-846 8260	MS3 VOA_040818B	Yes
SW-846 8260	MS3 VOA_040820A	Yes
SW-846 8260	MS3 VOA_040824A	Yes
SW-846 8260	MS3 VOA_040831A	Yes
SW-846 8260	MS3 VOA_040901A	Yes
SW-846 8260	MS3 VOA_040916A	Yes
SW-846 8270	4231641	Yes
SW-846 8270	4232570	Yes
SW-846 8270	4236581	Yes
SW-846 8270	4237440	Yes
SW-846 8270	4237627	Yes
SW-846 8270	4238359	Yes
SW-846 8270	4239452	Yes
SW-846 8270	4239517	Yes
SW-846 8270	4243650	Yes
SW-846 8270	4244469	Yes
SW-846 8270	4245529	Yes
SW-846 8270	4246557	Yes
SW-846 8270	4251551	Yes
SW-846 8270	4259550	Yes
SW-846 8270	4264617	Yes
SW-846 8270	4266517	Yes

LCS results are summarized in Table 9. The minimum and maximum LCS recoveries are tabulated by chemical for the entire project. LCS results that were outside of tolerances were reviewed to determine whether a potential bias might be indicated. LCS recoveries are not indicative of matrix effects because they are not prepared using Site samples. LCS results do indicate whether the laboratory may be introducing a bias in the results. Recoveries reported above the upper limit may indicate the actual sample results are less than reported. Because this is environmentally conservative, no further action is needed.

Table 9
LCS Evaluation Summary

Test Method	CAS No.	Analyte	Minimum Result	Maximum Result	Unit
SW-846 6010	7429-90-5	Aluminum	91	102	%REC
SW-846 6010	7440-36-0	Antimony	87	97	%REC
SW-846 6010	7440-38-2	Arsenic	85	95	%REC
SW-846 6010	7440-39-3	Barium	94	106	%REC
SW-846 6010	7440-41-7	Beryllium	94	105	%REC
SW-846 6010	7440-43-9	Cadmium	90	99	%REC
SW-846 6010	7440-47-3	Chromium	92	101	%REC
SW-846 6010	7440-48-4	Cobalt	88	97	%REC
SW-846 6010	7440-50-8	Copper	85	102	%REC

Test Method	CAS No.	Analyte	Minimum Result	Maximum Result	Unit
SW-846 6010	7439-89-6	Iron	92	105	%REC
SW-846 6010	7439-92-1	Lead	90	101	%REC
SW-846 6010	7439-93-2	Lithium	92	101	%REC
SW-846 6010	7439-96-5	Manganese	91	100	%REC
SW-846 6010	7439-97-6	Mercury	94	108	%REC
SW-846 6010	7439-98-7	Molybdenum	89	98	%REC
SW-846 6010	7440-02-0	Nickel	91	99	%REC
SW-846 6010	7782-49-2	Selenium	85	100	%REC
SW-846 6010	7440-22-4	Silver	87	97	%REC
SW-846 6010	7440-24-6	Strontium	91	103	%REC
SW-846 6010	7440-31-5	Tin	84	90	%REC
SW-846 6010	11-09-6	Uranium, Total	90	104	%REC
SW-846 6010	7440-62-2	Vanadium	90	99	%REC
SW-846 6010	7440-66-6	Zinc	89	99	%REC
SW-846 8260	71-55-6	1,1,1-Trichloroethane	78.57	107	%REC
SW-846 8260	79-34-5	1,1,2,2-Tetrachloroethane	89	128.8	%REC
SW-846 8260	79-00-5	1,1,2-Trichloroethane	87.38	115.3	%REC
SW-846 8260	75-34-3	1,1-Dichloroethane	86.39	107.1	%REC
SW-846 8260	75-35-4	1,1-Dichloroethene	91.17	138.4	%REC
SW-846 8260	120-82-1	1,2,4-Trichlorobenzene	79	125.8	%REC
SW-846 8260	95-50-1	1,2-Dichlorobenzene	84	114.1	%REC
SW-846 8260	107-06-2	1,2-Dichloroethane	79.63	110	%REC
SW-846 8260	78-87-5	1,2-Dichloropropane	86.76	109	%REC
SW-846 8260	106-46-7	1,4-Dichlorobenzene	81	119	%REC
SW-846 8260	78-93-3	2-Butanone	82.07	121.7	%REC
SW-846 8260	108-10-1	4-Methyl-2-pentanone	83.51	133.1	%REC
SW-846 8260	67-64-1	Acetone	82.51	154.3	%REC
SW-846 8260	71-43-2	Benzene	87.81	109.2	%REC
SW-846 8260	75-27-4	Bromodichloromethane	79.83	106	%REC
SW-846 8260	75-25-2	Bromoform	79.73	113	%REC
SW-846 8260	74-83-9	Bromomethane	42.3	121	%REC
SW-846 8260	75-15-0	Carbon Disulfide	61	141.4	%REC
SW-846 8260	56-23-5	Carbon Tetrachloride	77.38	105.7	%REC
SW-846 8260	108-90-7	Chlorobenzene	89	111.5	%REC
SW-846 8260	75-00-3	Chloroethane	95.58	132.4	%REC
SW-846 8260	67-66-3	Chloroform	76.58	104	%REC
SW-846 8260	74-87-3	Chloromethane	85	120	%REC
SW-846 8260	10061-01-5	cis-1,3-Dichloropropene	83.61	107	%REC
SW-846 8260	124-48-1	Dibromochloromethane	91.84	106.8	%REC
SW-846 8260	100-41-4	Ethylbenzene	94	120.5	%REC
SW-846 8260	87-68-3	Hexachlorobutadiene	86	129.7	%REC
SW-846 8260	75-09-2	Methylene chloride	85.97	132.5	%REC
SW-846 8260	91-20-3	Naphthalene	82	112.4	%REC
SW-846 8260	100-42-5	Styrene	92	114.4	%REC

Test Method	CAS No.	Analyte	Minimum Result	Maximum Result	Unit
SW-846 8260	127-18-4	Tetrachloroethene	80	121.3	%REC
SW-846 8260	108-88-3	Toluene	90.5	120.2	%REC
SW-846 8260	10061-02-6	trans-1,3-Dichloropropene	90.5	123.5	%REC
SW-846 8260	79-01-6	Trichloroethene	83.72	111	%REC
SW-846 8260	75-01-4	Vinyl chloride	80	137.1	%REC
SW-846 8260	1330-20-7	Xylene	91	117.7	%REC
SW-846 8270	120-82-1	1,2,4-Trichlorobenzene	58	80	%REC
SW-846 8270	95-95-4	2,4,5-Trichlorophenol	63	90	%REC
SW-846 8270	88-06-2	2,4,6-Trichlorophenol	61	88	%REC
SW-846 8270	120-83-2	2,4-Dichlorophenol	60	82	%REC
SW-846 8270	105-67-9	2,4-Dimethylphenol	62	86	%REC
SW-846 8270	51-28-5	2,4-Dinitrophenol	46	75	%REC
SW-846 8270	121-14-2	2,4-Dinitrotoluene	64	86	%REC
SW-846 8270	606-20-2	2,6-Dinitrotoluene	63	86	%REC
SW-846 8270	91-58-7	2-Chloronaphthalene	62	82	%REC
SW-846 8270	95-57-8	2-Chlorophenol	61	80	%REC
SW-846 8270	91-57-6	2-Methylnaphthalene	62	83	%REC
SW-846 8270	95-48-7	2-Methylphenol	59	80	%REC
SW-846 8270	88-74-4	2-Nitroaniline	61	85	%REC
SW-846 8270	91-94-1	3,3'-Dichlorobenzidine	24	66	%REC
SW-846 8270	534-52-1	4,6-Dinitro-2-methylphenol	50	74	%REC
SW-846 8270	106-47-8	4-Chloroaniline	37	70	%REC
SW-846 8270	106-44-5	4-Methylphenol	61	86	%REC
SW-846 8270	100-02-7	4-Nitrophenol	55	89	%REC
SW-846 8270	83-32-9	Acenaphthene	61	83	%REC
SW-846 8270	120-12-7	Anthracene	64	86	%REC
SW-846 8270	56-55-3	Benzo(a)anthracene	61	82	%REC
SW-846 8270	50-32-8	Benzo(a)pyrene	61	83	%REC
SW-846 8270	205-99-2	Benzo(b)fluoranthene	61	92	%REC
SW-846 8270	207-08-9	Benzo(k)fluoranthene	58	85	%REC
SW-846 8270	65-85-0	Benzoic Acid	28	68	%REC
SW-846 8270	100-51-6	Benzyl Alcohol	62	85	%REC
SW-846 8270	111-44-4	bis(2-Chloroethyl)ether	60	81	%REC
SW-846 8270	39638-32-9	bis(2-Chloroisopropyl)ether	51	75	%REC
SW-846 8270	117-81-7	bis(2-Ethylhexyl)phthalate	60	82	%REC
SW-846 8270	85-68-7	Butylbenzylphthalate	59	80	%REC
SW-846 8270	218-01-9	Chrysene	59	80	%REC
SW-846 8270	53-70-3	Dibenz(a,h)anthracene	52	89	%REC
SW-846 8270	132-64-9	Dibenzofuran	64	88	%REC
SW-846 8270	84-66-2	Diethylphthalate	62	84	%REC
SW-846 8270	131-11-3	Dimethylphthalate	63	86	%REC
SW-846 8270	84-74-2	Di-n-butylphthalate	66	89	%REC
SW-846 8270	117-84-0	Di-n-octylphthalate	59	78	%REC
SW-846 8270	206-44-0	Fluoranthene	63	88	%REC

13

Test Method	CAS No.	Analyte	Minimum Result	Maximum Result	Unit
SW-846 8270	86-73-7	Fluorene	63	85	%REC
SW-846 8270	118-74-1	Hexachlorobenzene	62	93	%REC
SW-846 8270	87-68-3	Hexachlorobutadiene	57	79	%REC
SW-846 8270	77-47-4	Hexachlorocyclopentadiene	34	66	%REC
SW-846 8270	67-72-1	Hexachloroethane	47	77	%REC
SW-846 8270	193-39-5	Indeno(1,2,3-cd)pyrene	52	90	%REC
SW-846 8270	78-59-1	Isophorone	58	76	%REC
SW-846 8270	91-20-3	Naphthalene	58	77	%REC
SW-846 8270	98-95-3	Nitrobenzene	58	77	%REC
SW-846 8270	86-30-6	n-Nitrosodiphenylamine	69	95	%REC
SW-846 8270	621-64-7	n-Nitrosodipropylamine	58	79	%REC
SW-846 8270	87-86-5	Pentachlorophenol	49	75	%REC
SW-846 8270	108-95-2	Phenol	59	83	%REC
SW-846 8270	129-00-0	Pyrene	54	83	%REC

The analytes with potentially unacceptable low recoveries were evaluated in the following manner. If the maximum sample result divided by the lowest LCS recovery for that analyte is less than the WRW AL, no further action is taken because any indicated bias is not great enough to affect project decisions. The four known WRW AL exceedances were excluded from the evaluation. Three analyses other than the four WRW exceedances failed the criterion: two for benzo(a)pyrene and one for benzo(b)fluoranthene.

Benzo(a)pyrene at two locations failed the criterion using the general Minimum Recovery from Table 9. Location BW40-028 (2800 µg/kg, 0.0-0.5 ft) passed when the specific Recovery for the associated RIN is used. Benzo(a)pyrene at BW40-005 (2700 µg/kg, 0.5-1.0 ft) still did not pass when the specific 76% Recovery for the RIN was used. Benzo(b)fluoranthene (without any WRW AL exceedances) at BW40-002 (2600 µg/kg, 0.0-0.5 ft) failed using the general Minimum 61% Recovery but passed using the 74% Recovery from the specific RIN.

Because project decisions are based on the hotspot methodology and the SSRS, the low LCS recovery for benzo(a)pyrene did not impact project decisions. Any qualification of individual results because of LCS performance exceeding upper or lower tolerance limits is also captured in the V&V flags, described in Section 9.2.3.

Surrogate Evaluation

The frequency of surrogate measurements, relative to each laboratory batch, is given in Table 10. The minimum and maximum surrogate results are also tabulated, by chemical, for the entire project. Surrogates are added to every VOC and SVOC sample, and, therefore, surrogate recoveries only impact individual samples. Unacceptable surrogate recoveries can indicate potential matrix effects. Surrogate recoveries reported above 100 percent may indicate the actual sample results are less than reported. Because this is environmentally conservative, no further action is needed. Therefore, only the lowest recoveries were evaluated. If the maximum sample result divided by the lowest surrogate

recovery is less than the WRW AL for that method, no further action is taken because any indicated bias is not great enough to correct a false low sample result to one above the AL.

Table 10
Surrogate Recovery Summary

Volatile Organic Compounds					
Number of Samples	CAS No.	Analyte	Minimum Result	Maximum Result	Unit
63	460-00-4	4-Bromofluorobenzene	80.94	119.3	%REC
63	17060-07-0	Deuterated 1,2-dichloroethane	92	135.9	%REC
63	2037-26-5	Deuterated Toluene	92.25	112.6	%REC
Semi-Volatile Organic Compounds					
Number of Samples	CAS No.	Analyte	Minimum Result	Maximum Result	Unit
79	321-60-8	2-Fluorobiphenyl	50	84	%REC
79	367-12-4	2-Fluorophenol	22	79	%REC
79	4165-60-0	Deuterated Nitrobenzene	47	72	%REC
79	1718-51-0	p-Terphenyl-d14	53	82	%REC

All IHSS Group 300-2 VOC analyses passed this criterion. Therefore, project decisions were not impacted by VOC surrogate recoveries. Any qualification of results due to surrogate results are also captured in the V&V flags, described in Section 9.2.3.

For IHSS Group 300-2 SVOCs, using the lowest minimum percent recovery of 22% for 2-fluorophenol from Table 10, the following compounds failed the evaluation criteria: benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene, and n-nitrosodipropylamine.

As noted above; the 22% minimum percent recovery only applies to a specific sample in this case. The low SVOC percent recovery for 2-fluorophenol did not impact project decisions. The next lowest minimum percent recovery for all SVOC surrogates is the 47% for deuterated nitrobenzene shown in Table10. All SVOC compounds pass the evaluation criterion except the two locations with the highest results.

Field Blank Evaluation

Results of the field blank analyses are provided in Table 11. Detectable amounts of contaminants within the blanks, which could indicate possible cross-contamination of samples, are evaluated if the same contaminant is detected in the associated real samples. For detections (non-"U" laboratory qualifiers), evaluation consists of multiplying the field blank results by 10 (for laboratory contaminants) or by 5 (for non-laboratory contaminants) and comparing them to the WRW ALs. In this case, to be conservative, the factor used was 10 in all cases. When the corrected field blank result is less than the WRW AL, the associated real results are considered acceptable.

Table 11
Field Blank Summary

Sample QC Code	Laboratory	CAS No.	Analyte	Detected Result	Unit
FB	URS	56-23-5	Carbon Tetrachloride	36.2	µg/L
FB	URS	67-66-3	Chloroform	1.7	µg/L
FB	URS	15117-96-1	Uranium-235	0.191	pCi/g
FB	URS	7440-61-1	Uranium-238	2.53	pCi/g
RNS	URS	56-23-5	Carbon Tetrachloride	2.8	µg/L
RNS	URS	108-88-3	Toluene	1.5	µg/L
RNS	URS	15117-96-1	Uranium-235	0.223	pCi/g
RNS	URS	7440-61-1	Uranium-238	2.57	pCi/g
TB	URS	56-23-5	Carbon Tetrachloride	9.52	µg/L
TB	URS	67-66-3	Chloroform	2.7	µg/L
TB	URS	108-88-3	Toluene	2.9	µg/L

FB = field blank, RNS = equipment rinse, EB = equipment blank, TB = trip blank
µg/L = micrograms per liter

In the IHSS Group 300-2 data, none of the results from blank analyses when multiplied by 10 exceeded their WRW ALs. Therefore, blank contamination did not adversely impact project decisions. Any qualification of results due to field blank results are also captured in the V&V flags, described in Section 9.2.3.

Sample Matrix Spike Evaluation

Table 12 provides a summary of the minimum and maximum MS results by chemical for the project. According to the EPA data validation guidelines (EPA 1994b), if organic MS recoveries are low, then the LCS recovery should be checked. If the recovery is acceptable, no action is taken. LCS recoveries for organic analyses with potentially unacceptable low MS recoveries were reviewed. For this project, the LCS checks indicate no decisions were impacted for organic analytes with low MS recoveries (refer to previous section).

Table 12
Sample MS Evaluation Summary

Test Method	CAS No.	Analyte	Minimum Result	Maximum Result	Unit	Number of MS Samples	Number of Laboratory Batches
SW-846 6010	7429-90-5	Aluminum	919	5710	%REC	7	7
SW-846 6010	7440-36-0	Antimony	38	78	%REC	7	7
SW-846 6010	7440-38-2	Arsenic	87	93	%REC	7	7
SW-846 6010	7440-39-3	Barium	94	116	%REC	7	7
SW-846 6010	7440-41-7	Beryllium	96	103	%REC	7	7
SW-846 6010	7440-43-9	Cadmium	85	93	%REC	7	7
SW-846 6010	7440-47-3	Chromium	55	136	%REC	7	7
SW-846 6010	7440-48-4	Cobalt	84	95	%REC	7	7
SW-846 6010	7440-50-8	Copper	62	115	%REC	7	7

Test Method	CAS No.	Analyte	Minimum Result	Maximum Result	Unit	Number of MS Samples	Number of Laboratory Batches
SW-846 6010	7439-89-6	Iron	0	4370	%REC	7	7
SW-846 6010	7439-92-1	Lead	86	109	%REC	7	7
SW-846 6010	7439-93-2	Lithium	99	106	%REC	7	7
SW-846 6010	7439-96-5	Manganese	17	202	%REC	7	7
SW-846 6010	7439-97-6	Mercury	60	102	%REC	10	10
SW-846 6010	7439-98-7	Molybdenum	87	94	%REC	7	7
SW-846 6010	7440-02-0	Nickel	83	108	%REC	7	7
SW-846 6010	7782-49-2	Selenium	85	92	%REC	7	7
SW-846 6010	7440-22-4	Silver	85	97	%REC	7	7
SW-846 6010	7440-24-6	Strontium	91	104	%REC	7	7
SW-846 6010	7440-31-5	Tin	81	87	%REC	7	7
SW-846 6010	11-09-6	Uranium, Total	91	97	%REC	7	7
SW-846 6010	7440-62-2	Vanadium	93	113	%REC	7	7
SW-846 6010	7440-66-6	Zinc	83	125	%REC	7	7
SW-846 8260	71-55-6	1,1,1-Trichloroethane	97	115.9	%REC	8	8
SW-846 8260	79-34-5	1,1,2,2-Tetrachloroethane	5.33	99.87	%REC	8	8
SW-846 8260	79-00-5	1,1,2-Trichloroethane	82.48	104.1	%REC	8	8
SW-846 8260	75-34-3	1,1-Dichloroethane	95.76	111.1	%REC	8	8
SW-846 8260	75-35-4	1,1-Dichloroethene	92.74	104.5	%REC	8	8
SW-846 8260	120-82-1	1,2,4-Trichlorobenzene	41.37	101	%REC	8	8
SW-846 8260	95-50-1	1,2-Dichlorobenzene	69.04	101.3	%REC	8	8
SW-846 8260	107-06-2	1,2-Dichloroethane	94	126.5	%REC	8	8
SW-846 8260	78-87-5	1,2-Dichloropropane	92.56	106.1	%REC	8	8
SW-846 8260	106-46-7	1,4-Dichlorobenzene	69.04	101	%REC	8	8
SW-846 8260	78-93-3	2-Butanone	85.57	116.1	%REC	8	8
SW-846 8260	108-10-1	4-Methyl-2-pentanone	91	105.7	%REC	8	8
SW-846 8260	67-64-1	Acetone	71.34	111.8	%REC	8	8
SW-846 8260	71-43-2	Benzene	93.45	103.9	%REC	8	8
SW-846 8260	75-27-4	Bromodichloromethane	94	116.6	%REC	8	8
SW-846 8260	75-25-2	Bromoform	89.77	106.2	%REC	8	8
SW-846 8260	74-83-9	Bromomethane	100.2	119.1	%REC	8	8
SW-846 8260	75-15-0	Carbon Disulfide	62.85	93	%REC	8	8
SW-846 8260	56-23-5	Carbon Tetrachloride	97	114.6	%REC	8	8
SW-846 8260	108-90-7	Chlorobenzene	82.4	102.1	%REC	8	8
SW-846 8260	75-00-3	Chloroethane	87.86	106	%REC	8	8
SW-846 8260	67-66-3	Chloroform	95	115.1	%REC	8	8
SW-846 8260	74-87-3	Chloromethane	84.08	104.4	%REC	8	8
SW-846 8260	10061-01-5	cis-1,3-Dichloropropene	93.15	107.8	%REC	8	8
SW-846 8260	124-48-1	Dibromochloromethane	90.3	104.5	%REC	8	8
SW-846 8260	100-41-4	Ethylbenzene	73.49	104.5	%REC	8	8
SW-846 8260	87-68-3	Hexachlorobutadiene	32.87	93	%REC	8	8
SW-846 8260	75-09-2	Methylene chloride	95.91	105	%REC	8	8
SW-846 8260	91-20-3	Naphthalene	67.07	398.1	%REC	8	8

Test Method	CAS No.	Analyte	Minimum Result	Maximum Result	Unit	Number of MS Samples	Number of Laboratory Batches
SW-846 8260	100-42-5	Styrene	77.33	106	%REC	8	8
SW-846 8260	127-18-4	Tetrachloroethene	76.42	104	%REC	8	8
SW-846 8260	108-88-3	Toluene	80	101.9	%REC	8	8
SW-846 8260	10061-02-6	trans-1,3-Dichloropropene	74.19	104.8	%REC	8	8
SW-846 8260	79-01-6	Trichloroethene	96.4	174.8	%REC	8	8
SW-846 8260	75-01-4	Vinyl chloride	81.54	108	%REC	8	8
SW-846 8260	1330-20-7	Xylene	75.34	107	%REC	8	8
SW-846 8270	120-82-1	1,2,4-Trichlorobenzene	46	77	%REC	9	9
SW-846 8270	95-95-4	2,4,5-Trichlorophenol	60	82	%REC	9	9
SW-846 8270	88-06-2	2,4,6-Trichlorophenol	56	83	%REC	9	9
SW-846 8270	120-83-2	2,4-Dichlorophenol	59	77	%REC	9	9
SW-846 8270	105-67-9	2,4-Dimethylphenol	61	81	%REC	9	9
SW-846 8270	51-28-5	2,4-Dinitrophenol	41	63	%REC	9	9
SW-846 8270	121-14-2	2,4-Dinitrotoluene	65	82	%REC	9	9
SW-846 8270	606-20-2	2,6-Dinitrotoluene	63	81	%REC	9	9
SW-846 8270	91-58-7	2-Chloronaphthalene	55	78	%REC	9	9
SW-846 8270	95-57-8	2-Chlorophenol	46	71	%REC	9	9
SW-846 8270	91-57-6	2-Methylnaphthalene	48	81	%REC	9	9
SW-846 8270	95-48-7	2-Methylphenol	54	75	%REC	9	9
SW-846 8270	88-74-4	2-Nitroaniline	63	82	%REC	9	9
SW-846 8270	91-94-1	3,3'-Dichlorobenzidine	27	63	%REC	9	9
SW-846 8270	534-52-1	4,6-Dinitro-2-methylphenol	37	66	%REC	9	9
SW-846 8270	106-47-8	4-Chloroaniline	46	62	%REC	9	9
SW-846 8270	106-44-5	4-Methylphenol	59	79	%REC	9	9
SW-846 8270	100-02-7	4-Nitrophenol	52	88	%REC	9	9
SW-846 8270	83-32-9	Acenaphthene	33	96	%REC	9	9
SW-846 8270	120-12-7	Anthracene	41	92	%REC	9	9
SW-846 8270	56-55-3	Benzo(a)anthracene	37	88	%REC	9	9
SW-846 8270	50-32-8	Benzo(a)pyrene	43	85	%REC	9	9
SW-846 8270	205-99-2	Benzo(b)fluoranthene	50	108	%REC	9	9
SW-846 8270	207-08-9	Benzo(k)fluoranthene	50	80	%REC	9	9
SW-846 8270	65-85-0	Benzoic Acid	0	68	%REC	9	9
SW-846 8270	100-51-6	Benzyl Alcohol	51	74	%REC	9	9
SW-846 8270	111-44-4	bis(2-Chloroethyl)ether	39	69	%REC	9	9
SW-846 8270	39638-32-9	bis(2-Chloroisopropyl)ether	46	69	%REC	9	9
SW-846 8270	117-81-7	bis(2-Ethylhexyl)phthalate	65	99	%REC	9	9
SW-846 8270	85-68-7	Butylbenzylphthalate	63	394	%REC	9	9
SW-846 8270	218-01-9	Chrysene	37	108	%REC	9	9
SW-846 8270	53-70-3	Dibenz(a,h)anthracene	56	79	%REC	9	9
SW-846 8270	132-64-9	Dibenzofuran	53	92	%REC	9	9
SW-846 8270	84-66-2	Diethylphthalate	59	81	%REC	9	9
SW-846 8270	131-11-3	Dimethylphthalate	61	84	%REC	9	9
SW-846 8270	84-74-2	Di-n-butylphthalate	62	86	%REC	9	9

78

Test Method	CAS No.	Analyte	Minimum Result	Maximum Result	Unit	Number of MS Samples	Number of Laboratory Batches
SW-846 8270	117-84-0	Di-n-octylphthalate	61	78	%REC	9	9
SW-846 8270	206-44-0	Fluoranthene	0	122	%REC	9	9
SW-846 8270	86-73-7	Fluorene	40	97	%REC	9	9
SW-846 8270	118-74-1	Hexachlorobenzene	56	88	%REC	9	9
SW-846 8270	87-68-3	Hexachlorobutadiene	42	80	%REC	9	9
SW-846 8270	77-47-4	Hexachlorocyclopentadiene	20	58	%REC	9	9
SW-846 8270	67-72-1	Hexachloroethane	41	67	%REC	9	9
SW-846 8270	193-39-5	Indeno(1,2,3-cd)pyrene	46	90	%REC	9	9
SW-846 8270	78-59-1	Isophorone	57	71	%REC	9	9
SW-846 8270	91-20-3	Naphthalene	1.7	82	%REC	9	9
SW-846 8270	98-95-3	Nitrobenzene	47	70	%REC	9	9
SW-846 8270	86-30-6	n-Nitrosodiphenylamine	66	91	%REC	9	9
SW-846 8270	621-64-7	n-Nitrosodipropylamine	53	72	%REC	9	9
SW-846 8270	87-86-5	Pentachlorophenol	42	64	%REC	9	9
SW-846 8270	108-95-2	Phenol	53	72	%REC	9	9
SW-846 8270	129-00-0	Pyrene	0	182	%REC	9	9

For inorganics with MS recoveries greater than zero, the maximum sample results were divided by the lowest percent recovery for each analyte. If the resulting number was less than the WRW AL, decisions were not impacted. All inorganic results with MS recoveries greater than zero were acceptable based on this criterion.

Percent recovery of iron ranged from 0 to 4370. Because the maximum iron result (23,000 mg/kg at BW40-031, 0.5 to 2.5 ft) is approximately 10 percent of the iron WRW AL (307,000 mg/kg), project decisions were not impacted by the MS percent recovery of 0 for iron.

9.2.2 Precision

Precision is measured by evaluating both MSDs and field duplicates as described in the following sections.

Matrix Spike Duplicate Evaluation

Laboratory precision is measured through the use of MSDs which are summarized in Table 13. Analytes with the highest relative percent differences (RPDs) (greater than 35 percent) are reviewed by comparing the highest sample result to the WRW AL. For analytes with RPDs exceeding 35 percent, if the highest sample results are sufficiently below the ALs, no further action is needed.

With respect to metals, aluminum, copper, iron, manganese, and mercury had RPDs greater than 35 percent. The maximum aluminum result is 10.6 percent of its WRW AL, for copper it is less than 1 percent, iron 7.5 percent, manganese 10.6 percent, and mercury less than 1 percent. This review indicates that project decisions were not impacted by MSD RPD values for metals that were greater than 35 percent.

79

With respect to organic analytes, 1,1,2,2-tetrachloroethane, acetone, naphthalene (as both VOC and SVOC), 1,2,4-trichlorobenzene, 2-chlorophenol, bis(2-chloroethyl)ether, bis(2-chloroisopropyl)ether, bis(2-ethylhexyl)phthalate, butylbenzylphthalate, fluoranthene, hexachlorobutadiene, hexachlorocyclopentadiene, hexachloroethane, and pyrene had maximum RPDs greater than 35 percent. The maximum result for bis(2-chloroethyl)ether is 4.3 percent of its WRW AL. The maximum results for the other analytes were equal to or less than one percent of their WRW ALs. This review indicates project decisions were not adversely impacted by organic MSD RPD values greater than 35 percent.

Table 13
Sample MSD Evaluation Summary

Test Method	CAS No.	Analyte	Maximum RPD
SW-846 6010	7429-90-5	Aluminum	120.910
SW-846 6010	7440-36-0	Antimony	25.287
SW-846 6010	7440-38-2	Arsenic	3.390
SW-846 6010	7440-39-3	Barium	11.009
SW-846 6010	7440-41-7	Beryllium	3.077
SW-846 6010	7440-43-9	Cadmium	10.056
SW-846 6010	7440-47-3	Chromium	22.581
SW-846 6010	7440-48-4	Cobalt	18.182
SW-846 6010	7440-50-8	Copper	65.868
SW-846 6010	7439-89-6	Iron	53.687
SW-846 6010	7439-92-1	Lead	30.542
SW-846 6010	7439-93-2	Lithium	4.831
SW-846 6010	7439-96-5	Manganese	106.849
SW-846 6010	7439-97-6	Mercury	79.070
SW-846 6010	7439-98-7	Molybdenum	5.525
SW-846 6010	7440-02-0	Nickel	5.236
SW-846 6010	7782-49-2	Selenium	3.468
SW-846 6010	7440-22-4	Silver	5.236
SW-846 6010	7440-24-6	Strontium	14.286
SW-846 6010	7440-31-5	Tin	4.494
SW-846 6010	11-09-6	Uranium, Total	2.174
SW-846 6010	7440-62-2	Vanadium	16.585
SW-846 6010	7440-66-6	Zinc	31.858
SW-846 8260	71-55-6	1,1,1-Trichloroethane	3.860
SW-846 8260	79-34-5	1,1,2,2-Tetrachloroethane	59.298
SW-846 8260	79-00-5	1,1,2-Trichloroethane	5.277
SW-846 8260	75-34-3	1,1-Dichloroethane	4.082
SW-846 8260	75-35-4	1,1-Dichloroethene	3.505
SW-846 8260	120-82-1	1,2,4-Trichlorobenzene	19.699
SW-846 8260	95-50-1	1,2-Dichlorobenzene	11.679
SW-846 8260	107-06-2	1,2-Dichloroethane	5.107
SW-846 8260	78-87-5	1,2-Dichloropropane	2.871
SW-846 8260	106-46-7	1,4-Dichlorobenzene	10.572

Test Method	CAS No.	Analyte	Maximum RPD
SW-846 8260	78-93-3	2-Butanone	21.303
SW-846 8260	108-10-1	4-Methyl-2-pentanone	12.487
SW-846 8260	67-64-1	Acetone	49.952
SW-846 8260	71-43-2	Benzene	3.687
SW-846 8260	75-27-4	Bromodichloromethane	4.436
SW-846 8260	75-25-2	Bromoform	9.731
SW-846 8260	74-83-9	Bromomethane	10.235
SW-846 8260	75-15-0	Carbon Disulfide	5.966
SW-846 8260	56-23-5	Carbon Tetrachloride	3.643
SW-846 8260	108-90-7	Chlorobenzene	7.858
SW-846 8260	75-00-3	Chloroethane	5.112
SW-846 8260	67-66-3	Chloroform	1.746
SW-846 8260	74-87-3	Chloromethane	4.753
SW-846 8260	10061-01-5	cis-1,3-Dichloropropene	3.554
SW-846 8260	124-48-1	Dibromochloromethane	6.975
SW-846 8260	100-41-4	Ethylbenzene	7.341
SW-846 8260	87-68-3	Hexachlorobutadiene	31.953
SW-846 8260	75-09-2	Methylene chloride	2.634
SW-846 8260	91-20-3	Naphthalene	214.709
SW-846 8260	100-42-5	Styrene	8.186
SW-846 8260	127-18-4	Tetrachloroethene	9.512
SW-846 8260	108-88-3	Toluene	23.204
SW-846 8260	10061-02-6	trans-1,3-Dichloropropene	3.687
SW-846 8260	79-01-6	Trichloroethene	16.722
SW-846 8260	75-01-4	Vinyl chloride	2.509
SW-846 8260	1330-20-7	Xylene	6.264
SW-846 8270	120-82-1	1,2,4-Trichlorobenzene	40.000
SW-846 8270	95-95-4	2,4,5-Trichlorophenol	9.929
SW-846 8270	88-06-2	2,4,6-Trichlorophenol	11.765
SW-846 8270	120-83-2	2,4-Dichlorophenol	19.549
SW-846 8270	105-67-9	2,4-Dimethylphenol	17.143
SW-846 8270	51-28-5	2,4-Dinitrophenol	30.303
SW-846 8270	121-14-2	2,4-Dinitrotoluene	10.072
SW-846 8270	606-20-2	2,6-Dinitrotoluene	10.959
SW-846 8270	91-58-7	2-Chloronaphthalene	19.672
SW-846 8270	95-57-8	2-Chlorophenol	40.000
SW-846 8270	91-57-6	2-Methylnaphthalene	25.564
SW-846 8270	95-48-7	2-Methylphenol	25.806
SW-846 8270	88-74-4	2-Nitroaniline	8.696
SW-846 8270	91-94-1	3,3'-Dichlorobenzidine	24.299
SW-846 8270	534-52-1	4,6-Dinitro-2-methylphenol	34.921
SW-846 8270	106-47-8	4-Chloroaniline	31.193
SW-846 8270	106-44-5	4-Methylphenol	18.462
SW-846 8270	100-02-7	4-Nitrophenol	9.836

Test Method	CAS No.	Analyte	Maximum RPD
SW-846 8270	83-32-9	Acenaphthene	14.525
SW-846 8270	120-12-7	Anthracene	16.471
SW-846 8270	56-55-3	Benzo(a)anthracene	25.352
SW-846 8270	50-32-8	Benzo(a)pyrene	24.113
SW-846 8270	205-99-2	Benzo(b)fluoranthene	25.714
SW-846 8270	207-08-9	Benzo(k)fluoranthene	22.556
SW-846 8270	65-85-0	Benzoic Acid	23.377
SW-846 8270	100-51-6	Benzyl Alcohol	31.405
SW-846 8270	111-44-4	bis(2-Chloroethyl)ether	44.000
SW-846 8270	39638-32-9	bis(2-Chloroisopropyl)ether	37.168
SW-846 8270	117-81-7	bis(2-Ethylhexyl)phthalate	121.951
SW-846 8270	85-68-7	Butylbenzylphthalate	68.027
SW-846 8270	218-01-9	Chrysene	30.216
SW-846 8270	53-70-3	Dibenz(a,h)anthracene	11.024
SW-846 8270	132-64-9	Dibenzofuran	15.152
SW-846 8270	84-66-2	Diethylphthalate	11.200
SW-846 8270	131-11-3	Dimethylphthalate	10.853
SW-846 8270	84-74-2	Di-n-butylphthalate	11.111
SW-846 8270	117-84-0	Di-n-octylphthalate	8.696
SW-846 8270	206-44-0	Fluoranthene	50.932
SW-846 8270	86-73-7	Fluorene	15.556
SW-846 8270	118-74-1	Hexachlorobenzene	13.333
SW-846 8270	87-68-3	Hexachlorobutadiene	42.991
SW-846 8270	77-47-4	Hexachlorocyclopentadiene	43.137
SW-846 8270	67-72-1	Hexachloroethane	42.308
SW-846 8270	193-39-5	Indeno(1,2,3-cd)pyrene	15.152
SW-846 8270	78-59-1	Isophorone	14.634
SW-846 8270	91-20-3	Naphthalene	35.294
SW-846 8270	98-95-3	Nitrobenzene	33.628
SW-846 8270	86-30-6	n-Nitrosodiphenylamine	10.127
SW-846 8270	621-64-7	n-Nitrosodipropylamine	24.793
SW-846 8270	87-86-5	Pentachlorophenol	15.000
SW-846 8270	108-95-2	Phenol	27.642
SW-846 8270	129-00-0	Pyrene	57.364

Field Duplicate Evaluation

Field duplicate results reflect sampling precision, or overall repeatability of the sampling process. The frequency of field duplicate collection should exceed 1 field duplicate per 20 real samples, or 5 percent. Table 14 indicates that sampling frequencies were adequate.

82

Table 14
Field Duplicate Sample Frequency Summary

Test Method	Number of Real Samples	Number of Duplicate Samples	% Duplicate Samples
Alpha Spectroscopy	8	6	75.00%
Gamma Spectroscopy	82	6	7.32%
SW-846 6010	82	6	7.32%
SW-846 8260	63	4	6.35%
SW-846 8270	82	6	7.32%

Duplicate sample RPDs indicate how much variation exists in the field duplicate analyses; duplicate sample RPDs are provided in Table 15. The EPA data validation guidelines state that "there are no required review criteria for field duplicate analyses comparability" (EPA 1994b). For the DQA, the highest maximum RPDs (greater than 35 percent) are normally reviewed. For Alpha Spectrometry, the maximum RPD for uranium-238 was greater than 35 percent. The maximum value for uranium-238 is less than 1 percent of the WRW, so the RPD did not impact project decisions.

All metal analytes in Table 15 have Maximum RPD values greater than 35 percent, however, project decisions were not impacted because of the following:

- Barium, beryllium, cobalt, copper, iron, lithium, mercury, nickel, strontium, vanadium, and zinc all have maximum values that are less than 10 percent of their WRW ALS. The high RPD results for these metals did not impact project decisions.
- Aluminum and manganese are not COCs.
- Corrections for LCS and MS recoveries for arsenic, chromium, and lead did not significantly alter the values.

Eleven SVOCs had Maximum RPDs greater than the 35 percent evaluation criterion. Seven compounds (2-methylnaphthalene, anthracene, chrysene, dibenzofuran, fluoranthene, fluorene, and naphthalene) have maximum values that are less than one percent of their WRW ALs. These are. Maximum RPDs for these compounds did not affect project decisions.

Benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, and indeno(1,2,3-cd)pyrene have maximum values that are higher percentages with respect to their WRW ALs. These high RPD values were associated with WRW exceedances. Because project decisions were based on RFCA criteria the decisions were not affected.

Table 15
RPD Evaluation Summary

Laboratory	Test Method	Analyte	Maximum RPD (%)
GEL	Alpha Spectrometry	Uranium-234	31.626
GEL	Alpha Spectrometry	Uranium-238	45.455

Laboratory	Test Method	Analyte	Maximum RPD (%)
ESTLDEN	SW-846 6010	Aluminum	109.677
ESTLDEN	SW-846 6010	Arsenic	65.600
ESTLDEN	SW-846 6010	Barium	156.164
ESTLDEN	SW-846 6010	Beryllium	54.545
ESTLDEN	SW-846 6010	Chromium	154.839
ESTLDEN	SW-846 6010	Cobalt	134.328
ESTLDEN	SW-846 6010	Copper	175.000
ESTLDEN	SW-846 6010	Iron	90.503
ESTLDEN	SW-846 6010	Lead	189.725
ESTLDEN	SW-846 6010	Lithium	41.379
ESTLDEN	SW-846 6010	Manganese	123.232
ESTLDEN	SW-846 6010	Mercury	63.158
ESTLDEN	SW-846 6010	Nickel	145.178
ESTLDEN	SW-846 6010	Strontium	123.353
ESTLDEN	SW-846 6010	Vanadium	114.721
ESTLDEN	SW-846 6010	Zinc	185.925
ESTLDEN	SW-846 8260	1,1,1-Trichloroethane	1.802
ESTLDEN	SW-846 8260	1,1-Dichloroethane	1.802
ESTLDEN	SW-846 8260	1,2,4-Trichlorobenzene	5.405
ESTLDEN	SW-846 8260	1,2-Dichloroethane	1.802
ESTLDEN	SW-846 8260	4-Methyl-2-pentanone	4.651
ESTLDEN	SW-846 8260	Acetone	1.980
ESTLDEN	SW-846 8260	Benzene	5.405
ESTLDEN	SW-846 8260	Bromodichloromethane	5.405
ESTLDEN	SW-846 8260	Bromoform	5.405
ESTLDEN	SW-846 8260	Carbon Disulfide	5.405
ESTLDEN	SW-846 8260	Chlorobenzene	5.405
ESTLDEN	SW-846 8260	Chloroform	5.405
ESTLDEN	SW-846 8260	cis-1,3-Dichloropropene	5.405
ESTLDEN	SW-846 8260	Dibromochloromethane	5.405
ESTLDEN	SW-846 8260	Methylene chloride	5.405
ESTLDEN	SW-846 8260	Naphthalene	1.802
ESTLDEN	SW-846 8260	Styrene	5.405
ESTLDEN	SW-846 8260	Tetrachloroethene	1.802
ESTLDEN	SW-846 8260	Toluene	3.636
ESTLDEN	SW-846 8260	trans-1,3-Dichloropropene	1.802
ESTLDEN	SW-846 8260	Trichloroethene	5.405
ESTLDEN	SW-846 8270	1,2,4-Trichlorobenzene	5.479
ESTLDEN	SW-846 8270	2,4,5-Trichlorophenol	5.479
ESTLDEN	SW-846 8270	2,4,6-Trichlorophenol	5.479
ESTLDEN	SW-846 8270	2,4-Dichlorophenol	5.479
ESTLDEN	SW-846 8270	2,4-Dimethylphenol	5.479
ESTLDEN	SW-846 8270	2,4-Dinitrophenol	2.899
ESTLDEN	SW-846 8270	2-Chloronaphthalene	5.479

84

Laboratory	Test Method	Analyte	Maximum RPD (%)
ESTLDEN	SW-846 8270	2-Chlorophenol	5.479
ESTLDEN	SW-846 8270	2-Methylnaphthalene	59.542
ESTLDEN	SW-846 8270	2-Methylphenol	5.479
ESTLDEN	SW-846 8270	2-Nitroaniline	2.899
ESTLDEN	SW-846 8270	3,3'-Dichlorobenzidine	6.897
ESTLDEN	SW-846 8270	4,6-Dinitro-2-methylphenol	2.899
ESTLDEN	SW-846 8270	4-Chloroaniline	6.897
ESTLDEN	SW-846 8270	4-Methylphenol	5.479
ESTLDEN	SW-846 8270	4-Nitrophenol	2.899
ESTLDEN	SW-846 8270	Acenaphthene	22.222
ESTLDEN	SW-846 8270	Anthracene	134.066
ESTLDEN	SW-846 8270	Benzo(a)anthracene	128.358
ESTLDEN	SW-846 8270	Benzo(a)pyrene	114.530
ESTLDEN	SW-846 8270	Benzo(b)fluoranthene	101.370
ESTLDEN	SW-846 8270	Benzo(k)fluoranthene	27.692
ESTLDEN	SW-846 8270	Benzoic Acid	2.899
ESTLDEN	SW-846 8270	Benzyl Alcohol	6.897
ESTLDEN	SW-846 8270	bis(2-Chloroethyl)ether	5.479
ESTLDEN	SW-846 8270	bis(2-Chloroisopropyl)ether	5.479
ESTLDEN	SW-846 8270	bis(2-Ethylhexyl)phthalate	8.955
ESTLDEN	SW-846 8270	Butylbenzylphthalate	5.479
ESTLDEN	SW-846 8270	Chrysene	117.460
ESTLDEN	SW-846 8270	Dibenz(a,h)anthracene	5.405
ESTLDEN	SW-846 8270	Dibenzofuran	118.280
ESTLDEN	SW-846 8270	Diethylphthalate	5.479
ESTLDEN	SW-846 8270	Dimethylphthalate	5.479
ESTLDEN	SW-846 8270	Di-n-butylphthalate	5.479
ESTLDEN	SW-846 8270	Di-n-octylphthalate	5.479
ESTLDEN	SW-846 8270	Fluoranthene	130.275
ESTLDEN	SW-846 8270	Fluorene	37.838
ESTLDEN	SW-846 8270	Hexachlorobenzene	5.479
ESTLDEN	SW-846 8270	Hexachlorobutadiene	5.479
ESTLDEN	SW-846 8270	Hexachlorocyclopentadiene	5.479
ESTLDEN	SW-846 8270	Hexachloroethane	5.479
ESTLDEN	SW-846 8270	Indeno(1,2,3-cd)pyrene	110.448
ESTLDEN	SW-846 8270	Isophorone	5.479
ESTLDEN	SW-846 8270	Naphthalene	76.923
ESTLDEN	SW-846 8270	Nitrobenzene	5.479
ESTLDEN	SW-846 8270	n-Nitrosodiphenylamine	5.479
ESTLDEN	SW-846 8270	n-Nitrosodipropylamine	5.479
ESTLDEN	SW-846 8270	Pentachlorophenol	2.899
ESTLDEN	SW-846 8270	Phenol	5.479
ESTLDEN	SW-846 8270	Pyrene	1.379

9.2.3 Completeness

Based on original program DQOs, a minimum of 25 percent of ER Program analytical results must be formally validated. Of that percentage, no more than 10 percent of the results may be rejected, which ensures that analytical laboratory practices are consistent with quality requirements. Table 16 presents the number and percentage of validated records (codes without "1"), verified records (codes with "1"), and rejected records for each analyte group. The percentage of rejected records was acceptable, none in this case. The frequency of validation for each of the analytical methods varies from 16.9 to 25.0 percent. However, evaluation of overall V&V completeness is based on program statistics that are not evaluated here.

Table 16
V&V Summary

Validation Qualifier Code	Total of CAS Number	Alpha Spectroscopy	Gamma Spectroscopy	SW-846 6010	SW-846 8260	SW-846 8270
No V&V	0	0	0	0	0	0
1	52	0	0	0	0	52
J	45	3	0	42	0	0
J1	268	0	0	267	1	0
JB	3	0	0	0	3	0
JB1	9	0	0	0	1	8
U1	1	0	0	0	1	0
UJ	35	0	0	23	12	0
UJ1	148	0	0	85	49	14
V	1523	7	42	257	489	728
V1	6888	30	204	1212	1928	3514
Total	8972	40	246	1886	2484	4316
Validated	1606	10	42	322	504	728
% Validated	17.90%	25.00%	17.07%	17.07%	20.29%	16.87%
Verified	7366	30	204	1564	1980	3588
% Verified	82.10%	75.00%	82.93%	82.93%	79.71%	83.13%

KEY: Validations: J = Estimated, JB = Estimated with possible laboratory contamination, R = Rejected, UJ = Estimated detection limit, V = Validated Verifications: J1 = Estimated, JB1 = Estimated with possible laboratory contamination, R1 = Rejected, UJ1 = Estimated detection limit, V1 = Verified

9.2.4 Sensitivity

Reporting limits, in units of micrograms per kilogram (µg/kg) for organics, mg/kg for metals, and picocuries per gram (pCi/g) for radionuclides, were compared with the RFCA WRW ALs. Adequate sensitivities of analytical methods were attained for all COCs that affect project decisions. "Adequate" sensitivity is defined as an RL that is less than an analyte's associated AL, typically less than one-half the AL.

9.3 Summary of Data Quality

While LCS and MSD results were out of range for several SVOCs, V&V indicated that rejection of the data was not warranted and because project decisions were based on

RFCA criteria. Although metals and some SVOCs had high RPD values, project decisions again, were not affected, because decisions were based on RFCA criteria.

10.0 CONCLUSIONS

Results of the accelerated action justify an NFAA determination for IHSS Group 300-2. This justification is based on the following:

- Surface soil with benzo(a)pyrene and dibenz(a,h)anthracene concentrations greater than the WRW AL was evaluated via a hotspot analysis. The determination was made that this soil did not require remediation.
- All other remaining contaminant concentrations are less than WRW ALs.
- The NFAA finding is appropriate based on the SSRS and hotspot evaluation.

11.0 REFERENCES

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87

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K-H, 2002c, V&V Guidelines for Volatile Organics, DA-SS01-v3, October.

K-H, 2002d, V&V Guidelines for Semivolatile Organics, DA-SS02-v3, October.

K-H, 2002e, V&V Guidelines for Metals, DA-SS05-v3, October.

Lockheed-Martin, 1997, Evaluation of Radiochemical Data Usability, ES/ER/MS-5.

88

APPENDIX A

Correspondence

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE
ER REGULATORY CONTACT RECORD

Date/Time:	August 12, 2004/2:00 pm	
Site Contact(s,:	Norma Castaneda,	Annette Primrose
Phone:	303 966-4226	303 966-4385
Regulatory Contact:	Harlan Ainscough	
Phone:	303 692-3337	
Agency:	CDPHE	
Purpose of Contact:	Modifications to the 300-2 IA SAP	

Discussion

As agreed, sample locations described in the IA SAP #IA-03-08 for IHSS Group 300-2 will be modified to reflect field conditions. These changes are as follows.

- Move BW40-001, a statistical sampling location, approximately 3' to the east to get off concrete pad and onto asphalt
- Move BW41-002 approximately 3' east to avoid an underground fuel line
- Move BW41-004, a statistical sampling location, approximately 3' east to avoid an underground utility
- Move BW40-033, a proposed sampling location biased for cracks in asphalt, approximately 15' to the southeast to target actual cracks in asphalt, proposed location falls on concrete, This location is about 5 feet east of BW40-004, a statistical sampling location. Therefore BW40-004 will be deleted.
- Move BW40-029, a proposed sampling location biased for cracks in asphalt, approximately 10' to the southwest to target the area of cracked asphalt. The new location is 5 feet east of BW40-007, a statistical sampling location. Therefore, BW40-007 will be deleted.
- Move BW40-010, a statistical sampling location, approximately 15' to the north to avoid overhead power lines
- BW40-024 is located adjacent to numerous utilities. This location is biased to a roof drain. There is soil and vegetation in the immediate area of the sample location. A surface grab sample only will be collected because of the numerous utilities. The soft dirt, and vegetation holding the dirt in place are indicative of contamination that may result from the roof drain.
- BW40-011 is a statistical sampling location that is under an air conditioner and near an air compressor. Moving this location places it next to BW40-027 or BW40-028. Therefore, this location will be deleted. Instead, another location will be placed halfway between BW40-023 and BW40-008. This new location will be biased for coverage in this area.
- BW40-027, a biased sampling location on the map but listed as statistical on Table 3 will be moved to the nearby former roof drain location

As also agreed,

- BW40-030 is not located near a roof drain as stated in the SAP. It will be sampled at the proposed coordinates provided in the SAP, offset as necessary to avoid utilities.

Contact Record Prepared by: Annette Primrose

90

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91

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE
ER REGULATORY CONTACT RECORD

Date/Time:	August 24, 2004/1:10 pm	
Site Contact(s,:	Norma Castaneda,	Annette Primrose
Phone:	303 966-4226	303 966-4385
Regulatory Contact:	Harlen Ainscough	
Phone:	303 692-3337	
Agency:	CDPHE	
Purpose of Contact:	Modifications to the 300-2 IA SAP	

Discussion

As agreed, sample locations described in the IA SAP #IA-03-08 for IHSS Group 300-2 will be modified to reflect field conditions.

The floor drain within B331 is covered by a steel plate and extends further south than shown in the SAP. An additional sample location will be added to the southern part of the line. In addition, these locations will be staggered one foot off of the floor drain as follows:

- BV40-004 – move one foot west
- BV40-005 – move one foot east
- BV40-009 – move one foot west
- BV40-010 – move one foot east
- New location – move one foot west

Sample locations associated with the roof drains will be moved away from the building to clear the building footer and allow for collection of a complete B interval. Sample locations are:

- BV40-003 – moved west
- BV40-011 – moved west
- BW40-021 – moved south
- BW40-032 – moved south

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93

ENCLOSURE
Complete Data Set Compact Disc
Accelerated Action Data

CD NOT INCLUDED

94
/
94

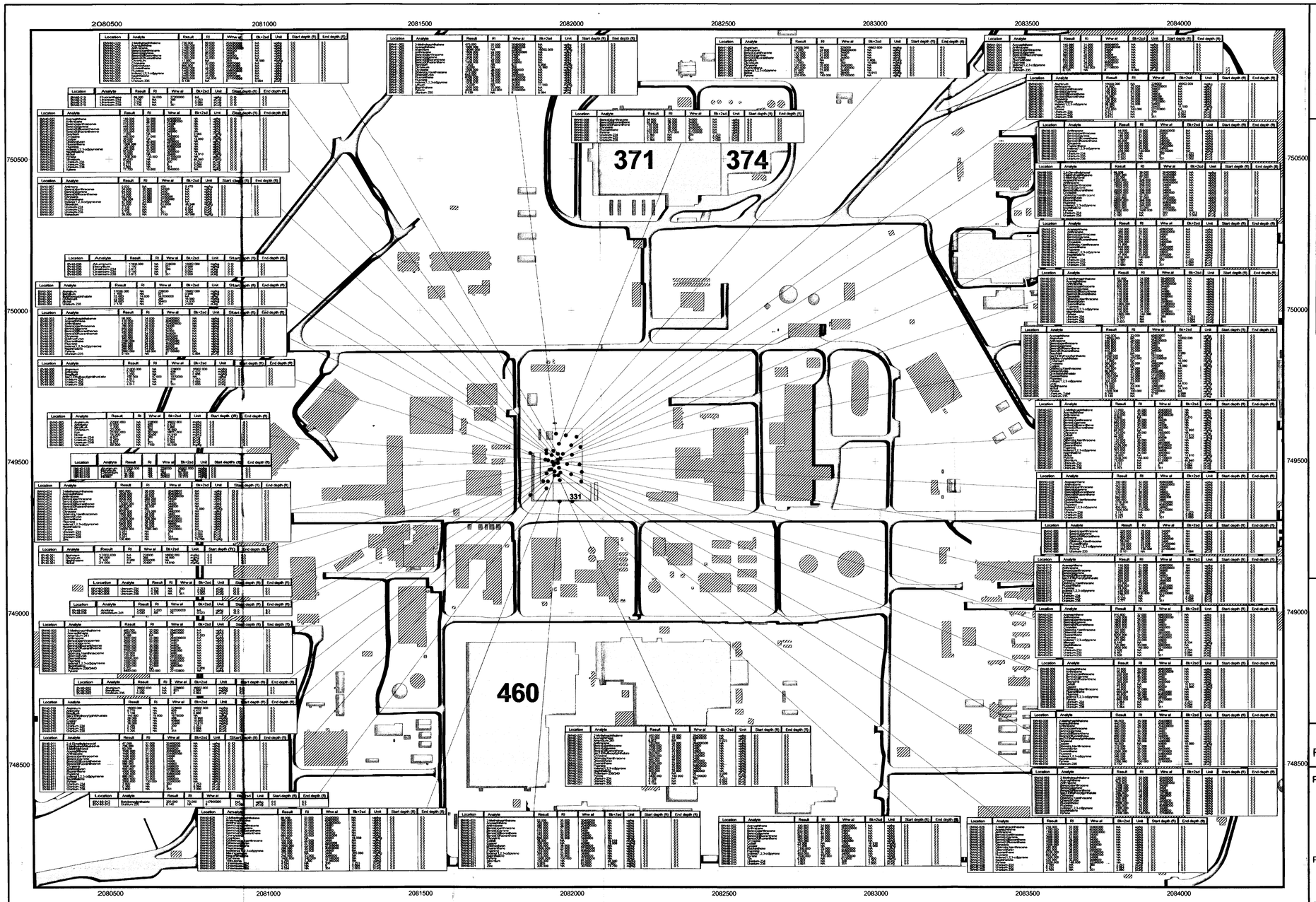


FIGURE 3
IHSS Group 300-2
Accelerated Action Sampling
Results Greater Than
Background Means PlusTwo
Standard Deviations or Reporting
Limits - Surface

KEY

- Sampling location with results greater than background means plus two standard deviations or reporting limits
- Sampling location with results greater than WRW AL
- UBC 331
- IHSS 134(S)
- Building demolished
- Building standing

DRAFT

N
W E
S

Scale = 1:2000

50 0 50 100 150 200 250 300 350 400 450 500 550 Feet

State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD 27

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared for: KAISER•HILL COMPANY

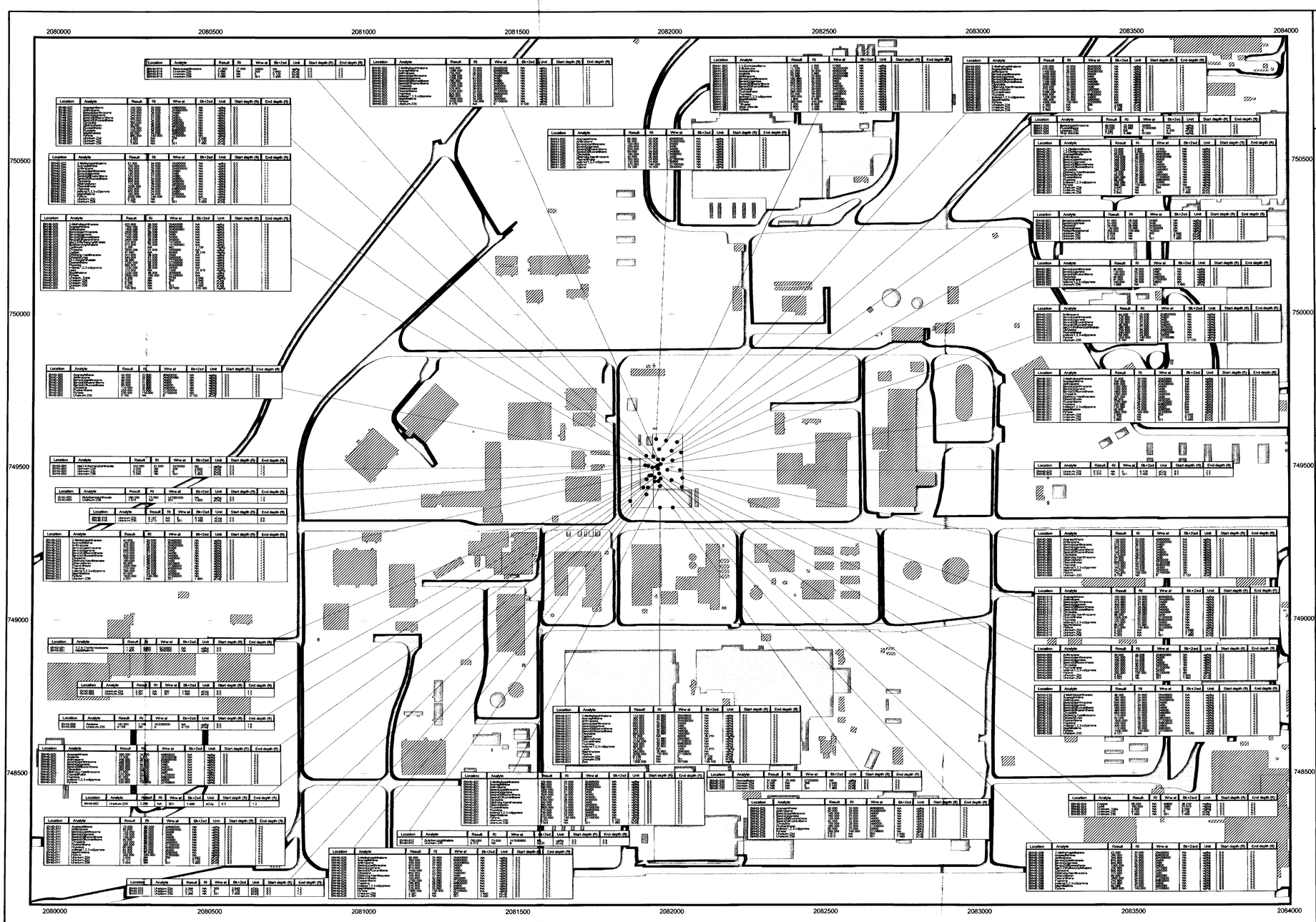
Prepared by: RADMS

Date: 11/11/04

File: W/Projects/Fy2005/300-2/300-2_Closeout.apr

FIGURE 4

IHSS Group 300-2
Accelerated Action Sampling
Results Greater Than
Background Means PlusTwo
Standard Deviations or Reporting
Limits - Subsurface



KEY

- Sampling location with results greater than background means plus two standard deviations or reporting limits
- Sampling location with results less than background means plus two standard deviations or reporting limits
- UBC 331
- IHSS 134(S)
- Building demolished
- Building standing

DRAFT

N
W E
S

Scale = 1:2000

50 0 50 100 150 200 250 300 350 400 450 500 550 Feet

State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD 27

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared for: KAISER•HILL COMPANY

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